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THE SECOND BOOK OF GO

Reading this book will set the player who has just learned the rules of go on the right track to becoming a strong player. It instructs the reader in the proper way to plan his or her strategy and how to attack the opponent's weak groups to turn influence into impregnable territory. It covers every aspect of the game — the opening, joseki, handicap go, middle-game fighting, tesuji, life and death, capturing races, ko fights, and the endgame.

Cover: Fukurokuji, Daikoku, and Ebisu, the gods of long life, riches, and food, gathered around a go board. From a mid-19th century woodblock print by Toichi.

BOZULICH THE SECOND BOOK OF GO

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THE SECOND BOOK OF GO

What You Need to Know After You've Learned the Rules

Kiseido Publishing Company

The Second Book of Go

by Richard Bozulich

Kiseido Publishing Company
Tokyo, Amsterdam, and Santa Monica

Published by
Kiseido Publishing Company
CPO BOX 1140
Tokyo Japan

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This books is available in Europe exclusively through
Shaak en Gowinkel het Paard
Haarlemmerdijk 147
1013 KH Amsterdam,
Holland
and its associates.

ISBN 4-906574-31-9

First Printing July 1987
Second Edition January 1998
Printed in Korea

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Preface

This book is written for go players who have acquired an understanding of the rules of go and some of its most elementary tactics and strategies by having read an introductory book and who have played a few games. We have assumed that the reader understands the terms 'sente' and 'gote', that he knows what a ko is, is able to determine the neutral points, and can count the score. (If you have not read an introductory book, we recommend *Go: A Complete Introduction to the Game* by Cho Chikun, which is available from Kiseido. See the bibliography from page 154 for ordering information.) Its aim is to give the novice an introduction to each phase of the game and to dispel a number of strategic and tactical misconceptions that often plague beginners and inhibit their progress. Beginners usually overemphasize defense, not realizing that the best way to defend is to attack. By attacking your opponent's stones, you can often defend your weak positions in the process. Understanding this concept from the very beginning of your go career will clear the way for quick progress up through the ranks. In this context, Chapters Two and Four are the most important and should be of value especially to players who have been struggling for years to reach expert level.

For those with little experience, we recommend studying this book concurrently with the four-volume series *Graded Go Problems for Beginners* by Kano Yoshinori. After solving the nearly 1500 problems in that series, capturing stones and determining whether groups are alive or dead will become second nature to you.

This second edition is a complete revision of the edition first published in 1987. It has been completely reorganized and is now divided into two parts: strategy and tactics. Because some of the chapters in the old edition duplicated what is in *Go: A Complete Introduction to the Game*, they have been cut from this edition. In their place, two new chapters on counting liberties and capturing races, written by Richard Hunter, have been added. This is the first time such a thorough treatment of this subject has been covered in English. We are also unaware of such a detailed treatment existing in the Japanese literature.

Finally, I would like to thank John Power, David Thayer and James Davies for their help and suggestions in writing this book. In particular, I am grateful to Rob van Zeijst for contributing examples to Chapters Three and Four. I must also thank Richard Hunter for contributing Chapters Seven and Eight to this edition as well as for his thorough proofreading of the other chapters.

January 1998
Richard Bozulich

PART ONE

STRATEGY

The opening is where you plan your strategy. Where you place your initial stones determines the type of game you will play. The usual procedure, as illustrated in Chapter One, is to start in the corners, extend along the sides, then move out into the center. In this stage, sharp clashes, called josekis, often occur. The joseki you choose is strategically crucial, since you must consider its outcome in relation to stones in other parts of the board. For the few basic josekis presented in Chapter Three, I have shown the kinds of positions in which they are applicable.

In contrast to even games, Black's strategy in handicap games is easier because the prior placement of stones on the handicap points gives Black an overwhelming lead in development. Since White must play within Black's spheres of influence, he should find himself constantly on the defensive, provided Black uses his initial advantage properly. In Chapter Two, I show how Black can maintain the initiative to keep White on the defensive. This method is summarized by four strategic principles for handicap games on page 21.

The middle game is where you turn the potential territory mapped out in the opening into real territory. The key is to identify weak groups and attack them in such a way that your spheres of influence harden into real territory. Building on positions reached in the first three chapters, Chapter Four shows concrete examples of how this is done. The chapter ends with five principles that should guide you in planning your middle-game strategy.

The standard elementary texts for studying the topics in this part are *In the Beginning* by Ishigure Ikuro, *Get Strong at the Opening* by Richard Bozulich, and *38 Basic Josekis* by Kosugi Kiyoshi and James Davies. The best introductory book on the middle game is *Attack and Defense* by Ishida Akira and James Davies. The book to study for dealing with strong enemy positions is *Get Strong at Invading* by Richard Bozulich. Mastery of these books will lay the foundation of your strategic technique.

A Brief Glossary of Japanese Go Terms

Below is a glossary of the Japanese go terms used in this book. For many of them, it is hard to find satisfactory English equivalents which convey their full nuances, so I have treated them as part of go's special vocabulary. Most of them are defined in the text when they are first introduced, but we list them here for the convenience of the readers.

atari — the threat to capture a stone of a group of stones on the next move.

fuseki — the opening moves of the game (usually defined as lasting until the first fight begins).

gote — a move not requiring an answer; losing the initiative. Compare *sente*.

hane — a diagonal move played from a friendly stone in contact with an enemy stone.

joseki — a set sequence of moves, usually in the opening. Locally, they are the best moves for each side.

oiotoshi — a situation in which one side's stones are in atari and even if that side connects on the capturing point, another capturing point appears. Sometimes called 'connect and die'.

ponnuki — the shape made when a stone is captured by four enemy stones.

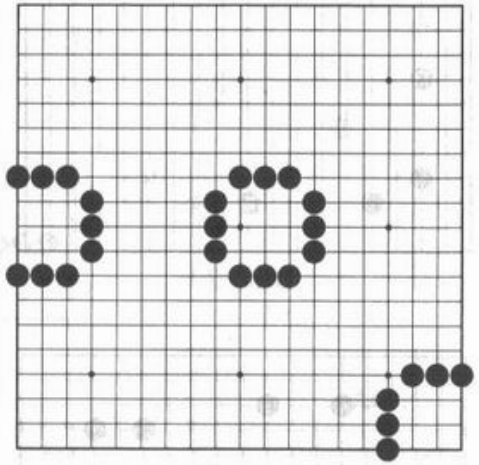
sente — a move that must be answered or an unacceptable loss will be suffered. Compare *gote*.

tesuji — a skillful tactical move.

Chapter One
The Opening Moves

Mapping out Territory

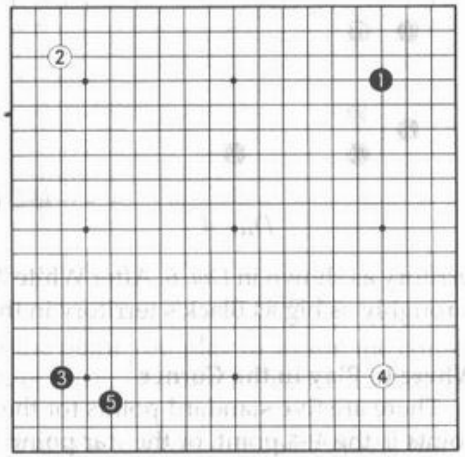
In go, each player tries to control more territory than his opponent. To this end, each stone must work as efficiently as possible. In *Dia. 1*, there are three different positions. In the lower right, Black has secured nine points of territory in the corner using six stones. On the left, Black has again taken nine points of territory on the side, but this time he needed nine stones. In the center, the black stones have taken nine points, but there it required twelve stones.



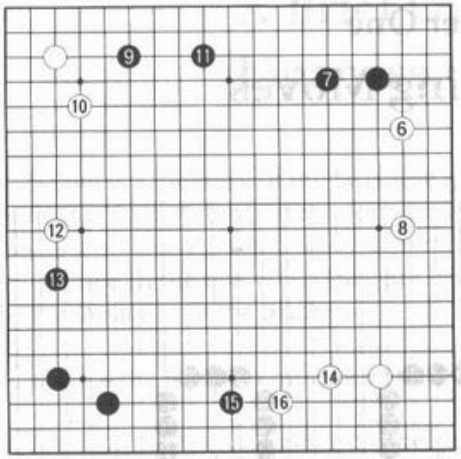
Dia. 1

From these positions we can generalize an important concept of the opening ('fuseki' in Japanese): it is easiest to secure territory — as well as eye shape and life — in the corners, harder on the sides, and most difficult in the center. This is the order in which strong players make their moves: first they play in the corners, then extend along the sides, and finally move out into the center.

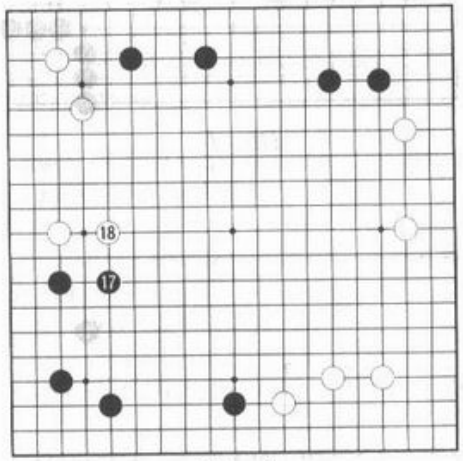
The game shown in *Dias. 2* to *4* follows this pattern. Both Black and White place stones in the corners until all four have been occupied in *Dia. 2*. In *Dia. 3* (next page), they play along the sides. Finally, in *Dia. 4* (next page), they move out into the center.



Dia. 2



Dia. 3



Dia. 4

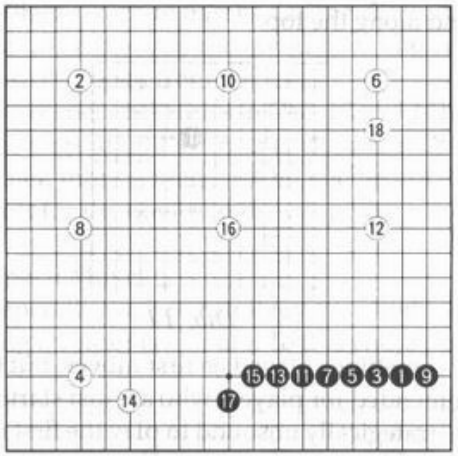
In the opening, your aim should be to map out territory. Don't worry if this territory is not secure; you may quickly secure some of it, but you can't count on securing it all. The job of securing the territory you have staked out comes in the middle game. Some of the territory you have claimed will become your enemy's territory and some of your enemy's territory will become yours. This is as it should be. The trick is to make sure that there is always a balance in the exchanges that take place.

It is bad strategy to concentrate your moves in only one part of the board. You may get a secure piece of territory, but your opponent will build up such a huge lead elsewhere that you will never catch up.

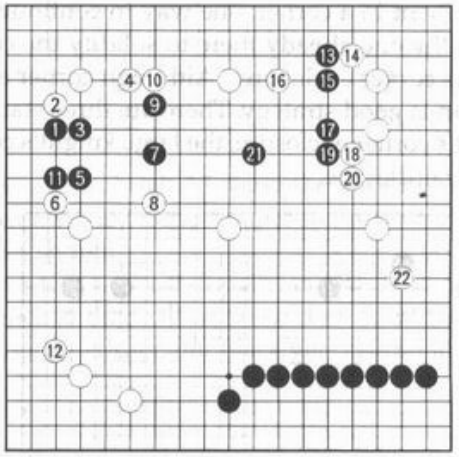
In *Dia. 5*, Black concentrates on making impregnable territory in the lower right, while White spreads his stones throughout the whole board. After eighteen moves, Black has about 30 points of sure territory, but White has strong influence worth more than 100 points. Black can invade and neutralize some of this influence, but he will never be able to catch up. While Black is invading, White will be securing large pieces of territory as shown in *Dia. 6*. After White 22, the territory on the upper right side is roughly as big as Black's territory in the bottom right.

Where to Play in the Corner

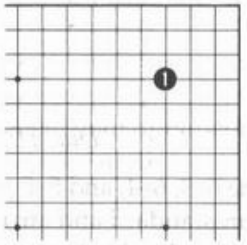
There are five standard points for the first move in the corner. One of those points is the 4–4 point, or the star point: Black 1 in *Dia. 7*. This move is played if you want to play for influence and develop your stones quickly. When you play this move, don't expect to secure territory in the opening.



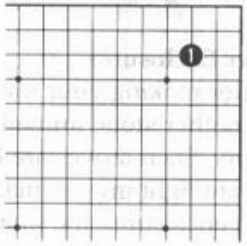
Dia. 5



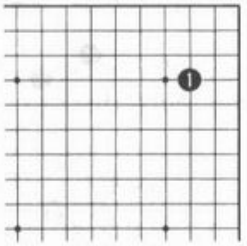
Dia. 6



Dia. 7



Dia. 8



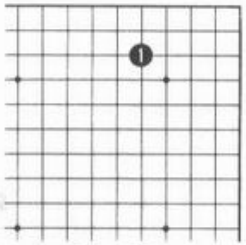
Dia. 9

Black 1 on the 3–3 point in *Dia. 8* is the point you play to secure the corner territory with one move. However, it does not have much influence toward the center.

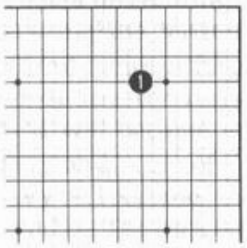
Black 1 on the 3–4 point in *Dia. 9* is also a territory-oriented move, but it places some emphasis on the right side. When Black plays here, he expects to get territory on the right side as well as a bit in the corner.

Black 1 on the 5–3 point in *Dia. 10* strongly emphasizes the top. Most of the corner is conceded to White.

Black 1 on the 5–4 point in *Dia. 11* completely concedes the corner to White. It aims for influence in the center and along the top.



Dia. 10

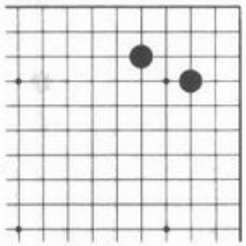


Dia. 11

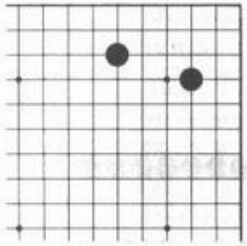
The 6–3, 6–4, and 5–5 points are sometimes played as first moves, but these are non-standard and are not recommended for players who are just starting to learn. You should also note that it is strategically unsound to play the first move on the second line.

Corner Enclosures

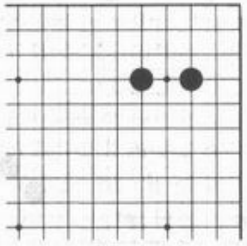
After making your initial placement in a corner, one way to continue is to add another stone immediately to the one already there to solidify the corner territory. Such moves are known as corner enclosures. Although corner enclosures are tight moves, making them is good strategy. There are three standard corner enclosures: the small knight's corner enclosure, the large knight's corner enclosure, and the one-point corner enclosure.



Dia. 12



Dia. 13



Dia. 14

The formation in *Dia. 12* is known as the small knight's corner enclosure. This enclosure tightly secures the corner. However, it is a bit weak toward the center.

Dia. 13 shows the large knight's corner enclosure. It also secures the corner, but it is a looser enclosure than the one in *Dia. 12*. Just like the small knight's enclosure, it doesn't exert much influence in the center.

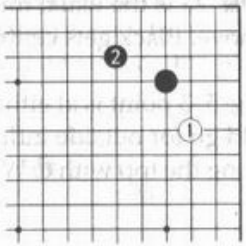
Even though we said the Black has 'secured' the corner territory, White might be able to wrest this territory away from him, but in compensation Black would get influence on the outside.

If Black wants to emphasize the center, he will play the one-point enclosure in *Dia. 14*. However, the territory in the corner is not as secure as in *Dia. 12* because it is open from the left.

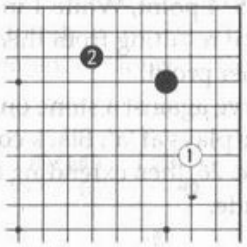
The corner enclosures in *Dias. 12* and *14* have been the most popular recently, but the large knight's corner enclosure in *Dia. 13* is also frequently played. There are other, more widely-spaced enclosures, but these are non-standard and are difficult for the novice to use properly.

Approach Moves

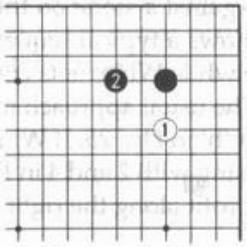
Depending on your strategy, you might want to prevent your opponent from making a corner enclosure. To this end, approach moves are used.



Dia. 15



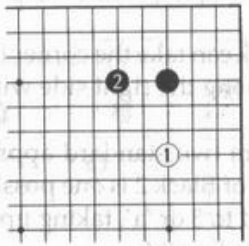
Dia. 16



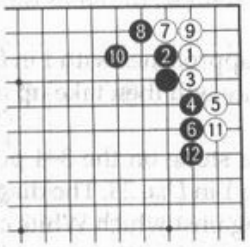
Dia. 17

Dias. 15 through *18* show the various approach moves that can be played against a stone on the 4–4 point. Possible black responses to these approaches are also shown.

Invading at the 3–3 point in *Dia. 19* is another possibility. In this case, the sequence to Black 12 is the kind of result that can be expected: White gets sure profit in the corner, but Black gets central influence.



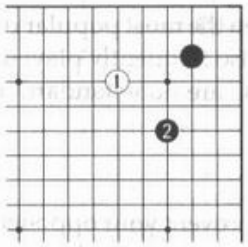
Dia. 18

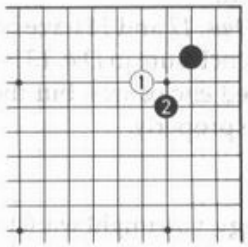


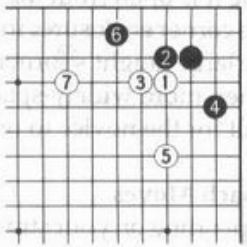
Dia. 19

Dias. 20 and *21* show two approach moves usually made against a stone on the 3–3 point. Possible black responses are also shown.

Striking directly above the black stone on the 3–3 point with White 1 in *Dia. 22* is a strong move. The sequence to White 7 results in sure profit in the corner for Black and central influence for White.

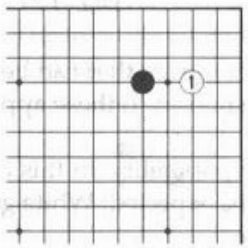

Dia. 20

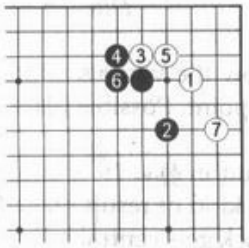

Dia. 21

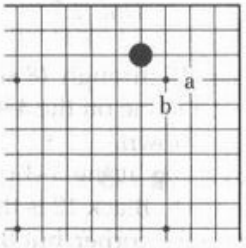

Dia. 22

Against a stone on the 5–4 point, White 1 in *Dia. 23* is the usual move. *Dia. 24* shows a typical sequence resulting from this move: Black gets central influence while White gets corner profit.

The usual approach move against a stone on the 5–3 point is at either White 'a' or 'b' in *Dia. 25*. If White plays at 'a', Black could go for outside influence by pressing with 2 and 4 in *Dia. 26*, then extending along the top with 6. White will get profit along the right side.


Dia. 23

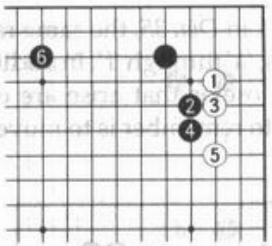

Dia. 24

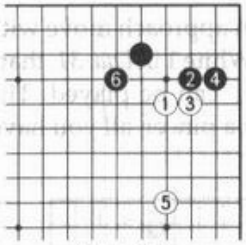


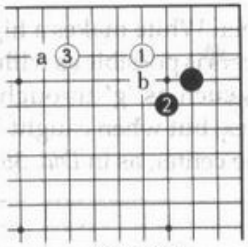
Dia. 25

If White approaches with 1 in *Dia. 27*, Black can take the corner territory with 2 and 4. White will then take up a position along the right side with 5.

Against a stone on the 3–4 point there are two standard approach moves: One is White 1 in *Dia. 28*. The diagonal move of Black 2 is one possible response to White 1, against which White could extend to 3 or 'a', taking up a position at the top. Instead of 1, White could also approach at 'b'.


Dia. 26


Dia. 27

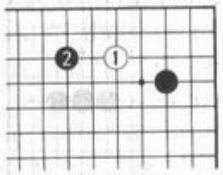


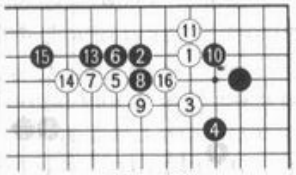
Dia. 28

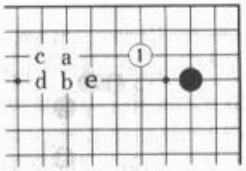
Pincers

Attacking the approach move of White 1 with a pincer at 2 in *Dia. 29* is severe because it prevents White from extending along the side. White has to move out into the center with 3 in *Dia. 30*. The sequence to White 16 is one possible result: Black gets territory on the right side and at the top, while White establishes a position in the center.

The pincer of Black 1 in *Dia. 29* is severe and can lead to fierce fighting. There are also the pincers from 'a' through 'e' in *Dia. 31* that Black might play. The choice will depend on the placement of stones in the other corners.


Dia. 29


Dia. 30

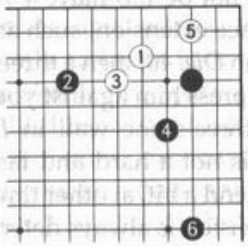


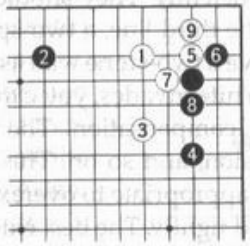
Dia. 31

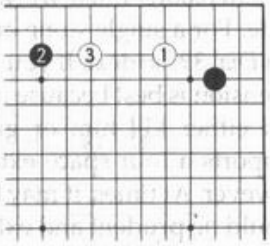
If Black plays the high pincer of 2 in *Dia. 32*, the sequence to Black 6 is one standard pattern ('joseki' in Japanese) that could result. Black maps out territory along the right side, while White occupies part of the corner.

Black 2 in *Dia. 33* is the farthest away that a stone can be played for it to be a pincer. The sequence to White 9 is one joseki that arises from this pincer.

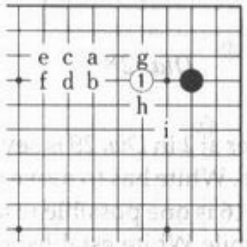
The reason Black 2 in *Dia. 34* is not a pincer is that it allows White to make an ideal two-space extension to 3. Black 2 is considered to be lukewarm.


Dia. 32

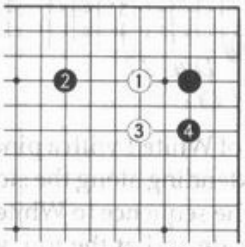

Dia. 33


Dia. 34

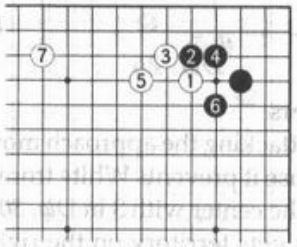
When White makes a high approach move with 1 in *Dia. 35*, the same range of pincers is possible as with White 1 in *Dia. 31*, that is, 'a' through 'f'. In addition, moves such as 'g' through 'i' can be played. The josekis that arise are often complex, but when caught in a pincer, all you have to remember is to move out into the center, as in *Dia. 36*.



Dia. 35

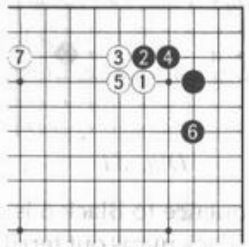


Dia. 36

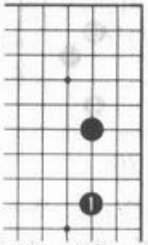


Dia. 37

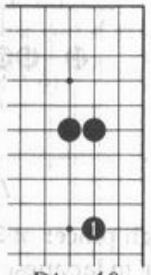
Attaching against the approach-move stone with 2 in *Dia. 37* leads to an important joseki. Up to White 7, Black takes profit in the corner, while White gets profit along the top. Another variation of this joseki is shown in *Dia. 38*.



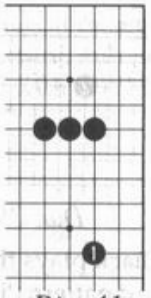
Dia. 38



Dia. 39



Dia. 40

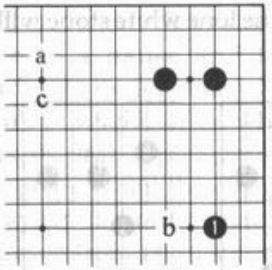


Dia. 41

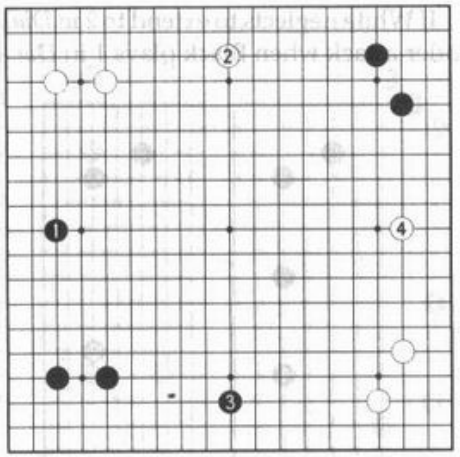
Extensions

After you have established a presence in the corners, the next step is to extend along the sides. Your extensions, however, must not only work in concert with your own stones but also, if possible, thwart the plans of your opponent.

Extensions must work efficiently. They should not be too narrow nor too wide. For a single stone on the third line, a two-space extension, such as Black 1 in *Dia. 39*, is ideal. If you have a two-stone wall as in *Dia. 40*, then a three-space extension is best because if White invades, you can press him against your wall and either kill him or gain compensation. The three-stone wall in *Dia. 41* supports a four-space extension, and so on. This is not a hard and fast rule, however. At times, it may be appropriate to overextend a bit, at other times you should be prudent and extend tightly. The best extension is always determined in relation to the other stones on the board.



Dia. 42

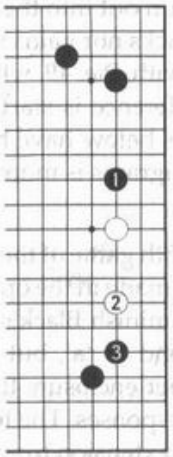


Dia. 43

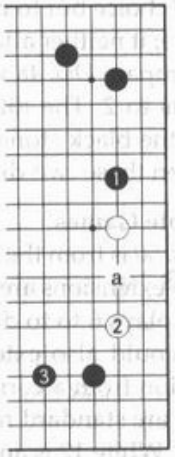
A corner enclosure can be regarded as a wall and you should extend from it in the direction perpendicular to the line of the two stones. For example, Black 1 in *Dia. 42*. An extension parallel to the line of the corner-enclosure stones, such as 'a', is certainly a big move, but considering only this local position Black 1 is more effective. The reason is the follow-up: adding Black 'b' to 1 makes a better box of territory with the enclosure than Black 'a' and 'c'.

In *Dia. 43*, there are two black and two white corner enclosures. Because the enclosures on the left side are facing each other, Black 1 is the biggest move. White 2 and Black 3 are of equal value: they both counter the influence of an opposing corner enclosure. White 2 at 3 would be just as good, but then Black would play at 2. Since White 4 is not in the direction in which the two enclosures on the right radiate their influence, it is the least valuable of the four moves.

When you have a stone on the 4–4 or 3–3 point, or have a corner enclosure, you will usually extend to the midpoint along the side, as in *Dia. 43*. However, when your opponent's stones occupy points along the side, you may not be able to extend so far. In *Dia. 44*, White occupies the midpoint on the right side, so Black can extend only as far as 1. In response, White makes a two-space extension to 2 establishing a base for his stones. This is a natural exchange. White could also make a three-space extension with 2 in *Dia. 45*, but, after 3, Black can aim at the invasion of 'a'.

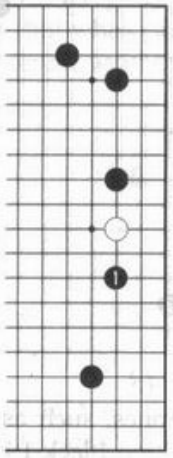


Dia. 44

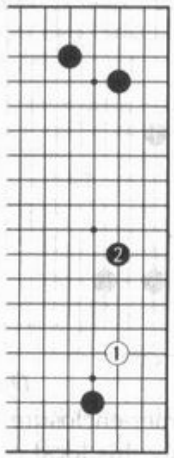


Dia. 45

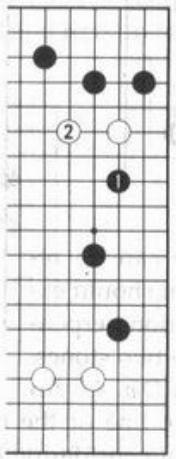
If White neglects to extend to 2 in *Dia. 44* or *45*, the lone white stone will come under attack when Black plays 1 in *Dia. 46*.



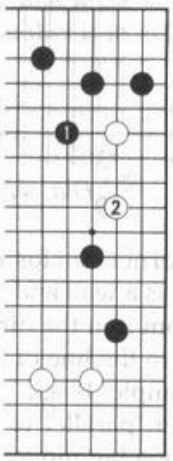
Dia. 46



Dia. 47



Dia. 48



Dia. 49

The best moves are the ones that have more than one purpose. For example, moves that build territory while attacking. Chances to play such moves often arise in the opening. In *Dia. 47*, White makes an approach move with 1. In response, Black plays 2. This move is both a pincer and an extension. That is, Black 2 maps out a loose framework of territory together with the enclosure at the top, putting pressure on the white stone at 1 at the same time.

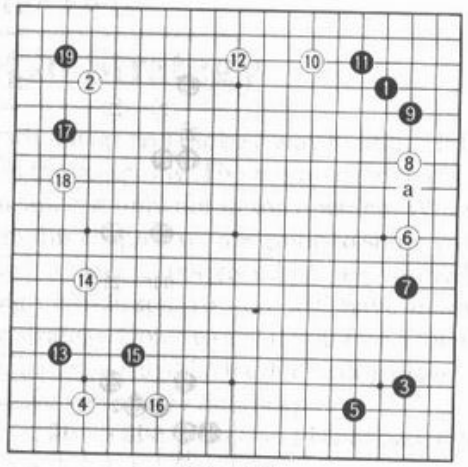
Black 1 in *Dia. 48* is the same idea. Black gains territory with 1, while White has no choice but to run out into the center with 2, a move whose only value is defense; it neither attacks nor gains territory.

Compare *Dia. 48* with *Dia. 49*, where Black attacks on top with 1 and White extends to 2. The difference is startling: White's stones have become secure, while the black stones below have become insecure. The territorial difference between these two diagrams is more than 20 points.

Example Games

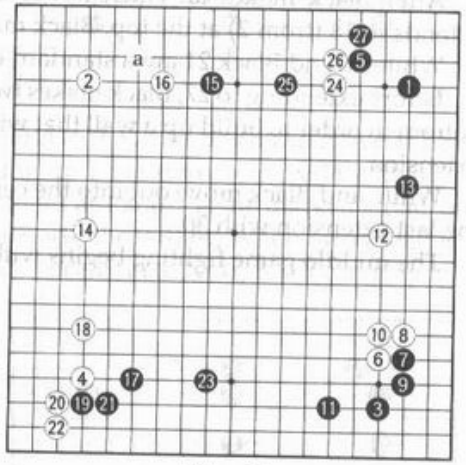
Dia. 50 is from the 5th game of the 1986 Kisei title match. It is a good example of how extensions are made in the opening. After both sides occupy the corners, White plays 6 to to diminish Black's dominance of the right side. Instead of 7, Black could also extend to 'a', but it is usually more profitable to make an extension from a corner enclosure than from a stone on the 4–4 point. Black 9 and 11 are standard responses. The territory in the upper right corner is almost secure. White 12 is an extension from both the stone at 10 and the one at 2, so it is a move with a double purpose.

Play on the right side has now come to a pause and the action switches to the left. Black 13 to White 16 are a joseki, after which Black plays the last approach move at 17. This gives White the chance to play 18, which is both a pincer and an extension from 14. Black counters by invading the corner with 19.



Dia. 50

Dia. 51 comes from the preliminary rounds of the 1986 Kisei tournament. After the joseki to White 12, extending to Black 13 is a big move. Because of the high position of 12, White's group has a weak underbelly and it needs another stone in order to establish a secure base. At the moment, there is no great danger to these stones and, since quick development in the opening is important, White plays on the left side with 14. This is a big double-purpose move: it is an extension from both the stone at 2 and the stone at 4. The formation made by White 2–14–4 exerts strong influence in the center and it has a special name in Japanese, 'san-ren-sei'. It can be likened to a corner enclosure which extends along the entire left side and whose influence radiates across the whole board.

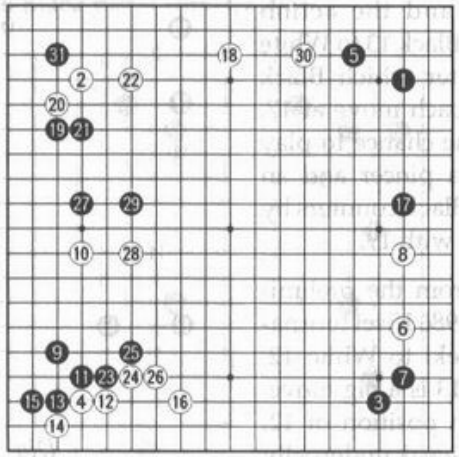


Dia. 51

The purpose of Black 15 is to neutralize this influence. It also serves as an extension from Black's corner enclosure at the top. This move also aims at 'a', which would give Black an excellent position at the top. White 16 prevents this aim; it also serves as an extension from his stone at 2.

Next, Black makes an approach move at 17. The sequence to 23 is a joseki. White secures his territory in the lower left corner, and Black establishes a position along the bottom.

White 24 is similar to an approach move and Black 25 becomes both a pincer and an extension.



Dia. 52

Dia. 52 is the opening of the first game from the 1985 Meijin title match. Before extending to 17 on the right side, Black switches to 9 and plays out the joseki to 15 to establish a base on the left side.

Note that White 10 is both a pincer against 9 and an extension from 2.

After Black makes an extension to 17 from his corner enclosure, White extends to 18 (from 2) at the top. Black makes the last approach move with 19.

White 20 and Black 21 are a standard exchange.

Before extending to 27, Black makes two forcing moves with 23 and 25 at the bottom in order to build up a wall that will make Black 27 a pincer as well as an extension.

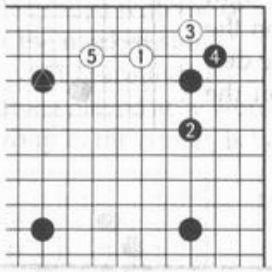
White and Black move out into the center with 28 and 29, and White makes the last extension with 30.

The middle-game fighting begins with the invasion of Black 31.

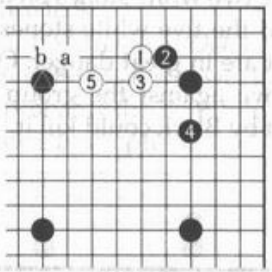
Chapter Two
Handicap-Go Strategy

In handicap games, Black has a big advantage and the best way to utilize this advantage is to go on the offensive from the beginning. There is no need to play defensively when taking a large handicap, certainly not in the opening. White should be the one to play defensively. In this chapter, we are going to show you how to attack White in handicap games. As an inexperienced player, you will be playing most of your games at high handicaps, so you will have many opportunities to practice this attacking strategy. Don't worry if you lose a lot of your games. If you follow the principles laid down in this chapter, strong players will eventually find it very difficult to give you a large handicap.

Answering White's approach move at 1 with Black 2 in *Dia. 1* is not bad, but considering that Black has the marked stone in place, he is not playing as severely as he could. White can settle his stones with the sequence to 5, so Black's stones are no longer attacking effectively.



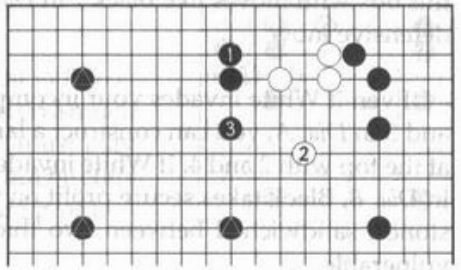
Dia. 1



Dia. 2

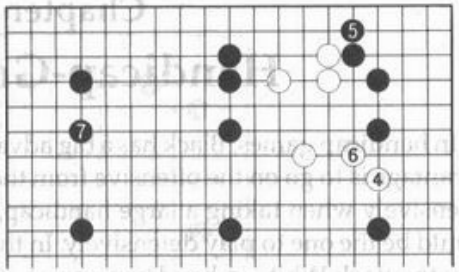
When the marked star-point stone is in place on the side, the best way to respond to the white approach move at 1 is to exchange 2 for 3 in *Dia. 2* before taking up a position on the side with 4. The natural extension for the two white stones at 1 and 3 is the marked stone, but, since Black has a stone on that point already, the farthest White can extend is to 5, which leaves him cramped and overconcentrated. Next, Black can play at 'a' or 'b' to force White out into the center. While attacking White, Black will build a wall on the left.

Black 1 in *Dia. 3* makes it difficult for White to get two eyes at the top. His only recourse is to run out into the center with 2. Black pursues him with 3; his moves are now working with his three marked stones to form a box shape on the left.



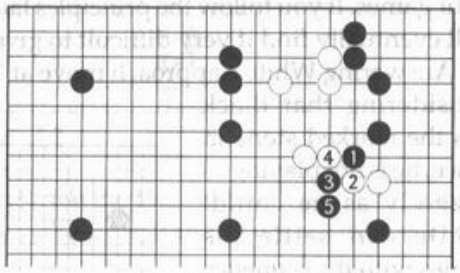
Dia. 3

White 4 in *Dia. 4* attempts to isolate Black's three stones in the top right. Black calmly reinforces his corner with 5, compelling White to keep his position intact by playing 6. Next, Black adds another stone to his box shape with 7, making a white invasion there even more difficult.



Dia. 4

If White neglects to play 6 in *Dia. 4*, Black will push through and cut White into two groups with the sequence to 5 in *Dia. 5*. The two white stones on the right and the five white stones on the left are in great danger. One deft move against the group on the left by Black could kill it.

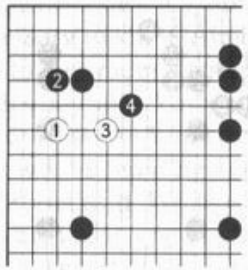


Dia. 5

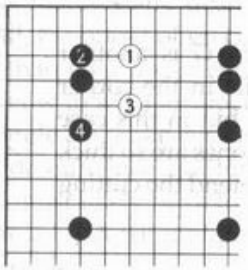
BUILDING A BOX SHAPE

In a nine-stone handicap game, your stones occupy all the star points, so you should easily be able to make at least one box shape. The way to go about it is to build up the outer walls of this box with attacking moves such as Black 1 and 3 in *Dia. 3*, then to reinforce the inner weak points of this box with moves like Black 7 in *Dia. 4* after White makes a necessary defensive move.

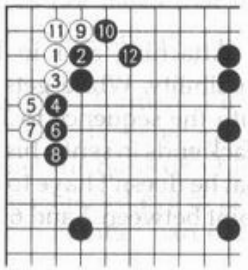
Even if White invades your incomplete box shape with moves like 1 and 3 in *Dia. A*, you can construct a large, almost impenetrable territory at the top with 2 and 4. If White invades from the other side with 1 and 3 in *Dia. B*, Black takes secure profit on the left with 2 and 4. White's two stones, sandwiched between two thick black positions, are extremely vulnerable.



Dia. A



Dia. B

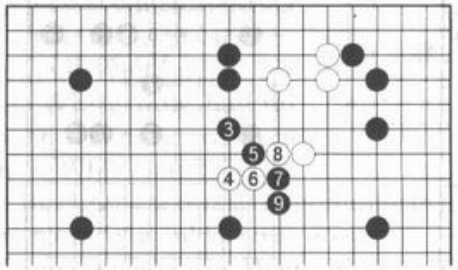


Dia. C

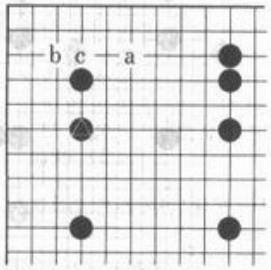
If White invades the corner at the 3–3 point with 1 in *Dia. C*, Black confines White to the corner with the sequence to 12 and builds a deep valley of territory.

White might also try to make a dent in your box shape with a move like 4 in *Dia. D*. Such a tactic is unsound. Just as in *Dia. 5*, Black separates White into two vulnerable groups with the sequence to 9.

Once you have added the marked stone to your box shape in *Dia. E*, White has less scope for invading around here because he has fewer weak points to aim at. A white stone played at 'a' would probably die, so White 'b' or 'c', to get a living group in the corner, is White's best option.

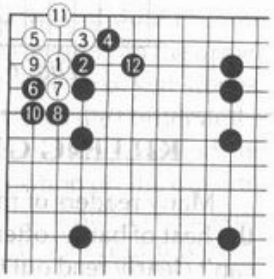


Dia. D



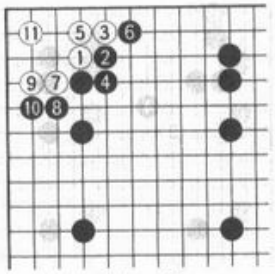
Dia. E

If White invades at the 3–3 point in *Dia. F*, he lives with the sequence to 11, but on a much smaller scale than in *Dia. C*. Black must play 12 to fix up the defect in his shape, but he ends up with more than 35 points in sure profit.



Dia. F

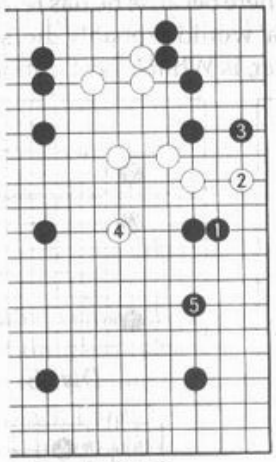
Attaching at 1 in *Dia. G* is another possibility. White gets life in the corner with the sequence to 11, but in this case Black ends in sente: his stones are so thick that he doesn't have to defend the cutting point between 2 and 6.



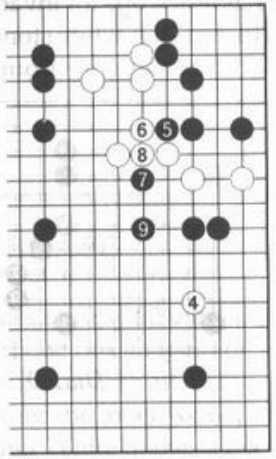
Dia. G

After White 6 in *Dia. 4*, Black 1 in *Dia. 6* is a powerful move which keeps up the pressure on White. White first exchanges 2 for 3, then jumps out to 4. Next, Black stakes out territory on the right side with 5.

White 4 in *Dia. 6* cannot be omitted. If White tries to attack with a pincer at 4 in *Dia. 7*, Black counterattacks with 5 to 9. The white group at the top is now in serious trouble. With skillful play by Black, it will not be able to live.



Dia. 6



Dia. 7

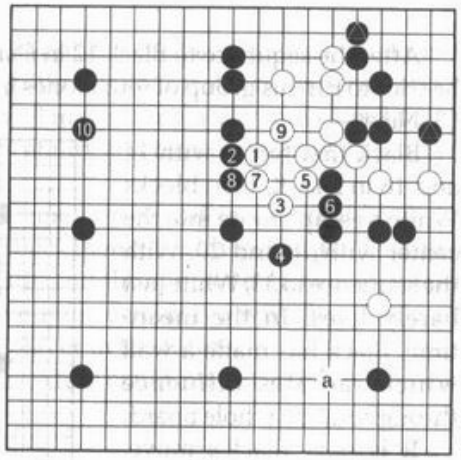
KILLING GROUPS OR LETTING THEM LIVE

Many readers of this book and even expert level players, especially in the heat of battle, often fail to kill groups that should in theory die. If you can't clearly read out the moves to the death of a group you are attacking, it is often better just to let it live.

Just because a group is theoretically dead does not mean that it is necessary to kill it. After all, the object of go is not to kill groups; rather, it is to take more territory than your opponent.

If you can't clearly see how to kill a group, don't try. Torment it from the outside. As White struggles to make eyes for his endangered group, you will be building outside influence and forming the basis of a huge territorial lead. White will most likely have to make his last eye in gote, at which time you can take a big territorial point in another part of the board. *Dia. H* illustrates this idea.

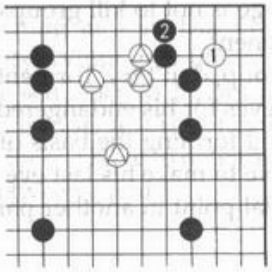
If White tries to break out into the open with 1 and 3, Black blocks his exit with 2 and 4, strengthening his wall. After White makes an eye with 5 and 7, Black plays 8. This move is not really necessary to prevent White from breaking out, and Black could go all out to kill the white group. But Black 8 is a solid move which defends any weakness in Black's position that White might exploit. White now has no choice but to make two eyes with 9. White has lived in gote. Black now takes this opportunity to reinforce his box shape with 10. (A move at 'a' would also be good.)



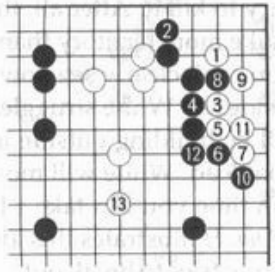
Dia. H

Corner invasions by White are often quite disconcerting for a player who takes a handicap. Just because you have played a few stones around a corner, however, does not mean that the territory there should become yours. In *Dia. H*, Black has at least 18 points of secure territory in the upper right corner, but only because of the presence of the two marked stones.

In the position in *Dia. I* (next page), if White invades the corner at the 3–3 point, Black should not attempt to capture this stone. Instead, he should let White live and aim at building up his position on the outside, using the resulting thickness to attack the four marked white stones. With this in mind, Black descends to 2, after which White will find it hard to make eyes for his group on the left.



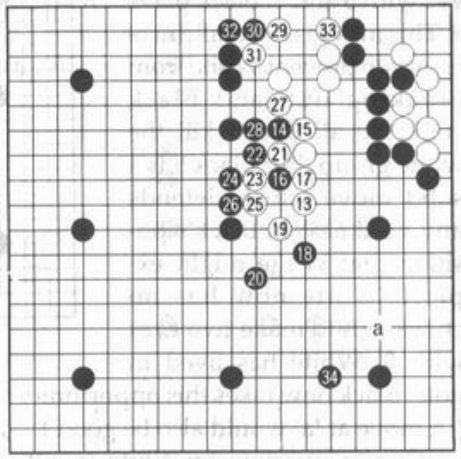
Dia. I



Dia. J

After the sequence to Black 12 in *Dia. J*, White is alive in the corner, so he tries to run his group of four stones in the center out into the open with 13. Next —

Black first forces with 14 and 16 in *Dia. K*, then blocks White's escape route into the center with 18 and 20. With the sequence to 33, White just barely lives. In the meantime, Black has made a wall which radiates influence throughout the whole board.



Dia. K

It is now Black's move. He might try playing at 34, although 'a' is also a good move. If we survey the board in *Dia. K*, we see that both white groups have lived. But he has taken only five or six points with his group in the center and he can expect only about three points with his stones in the corner: altogether, about 10 points at most. Black, on the other hand, doesn't have any solid territory, but the influence he has built up throughout the center will enable him to make a very big territory in the future. We will come back to this topic in Chapter Four.

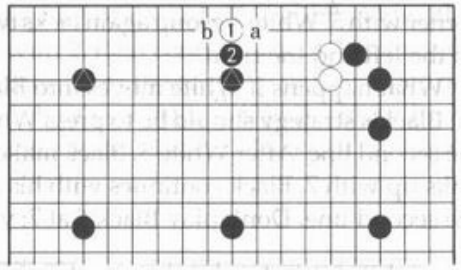
In summary, your strategy in high handicap games should be to keep up the pressure on White by doing the following:

- Force White's stones to run away into the center by restricting the room they have on the side to make eyes (Black 1 in *Dia. 3*). In this way, you prevent White from getting a big territory.
- Follow White out into the center and make a box shape in conjunction with your handicap stones elsewhere on the board (Black 3 in *Dia. 3*). The influence this gives you will be the basis for the territory you form in the middle game.
- Don't try too hard to kill groups. Let them live and concentrate on making influence by encircling a group and forcing it to live in a confined space.
- When White finally makes a defensive move, play a big territorial move, such as reinforcing your box shape (Black 7 in *Dia. 4*).

Don't be fooled, however, by the simplicity of the sequences given in the above diagrams. Even though you faithfully follow these patterns and the principles we are expounding, White will make many tricky moves and you will lose a lot of games until your analytical ability and technique catch up with your strategic knowledge.

You will find many sure-win strategies promoted in different books, but none of them will work unless you can back them up with technique. This means becoming strong at tesuji, life and death, and the endgame. However, thinking about go strategy in the way we have indicated above will give you a solid foundation to become a really strong player in the future.

Let's look at some other moves that White could play after Black 4 in *Dia. 2*. White 1 in *Dia. 8* strikes at the weak point of the side star-point stone. Inexperienced players often panic at the sight of such a move. They fear that White is going to wrest all the territory on the upper left side from them. This fear is based on a false assumption: that the area at the top belongs to Black because he already has the marked stones in place. But these stones don't secure the side area, they only stake out a claim to it and give Black an advantage in any fighting that might take place there. Moreover, stones on the 4th line are directed as much towards the center as towards the edge, so if a side or corner area you have staked out is invaded, you should switch your emphasis towards the center for compensation by confining White to the corner if he invades there, or by pressing him into a low position if he invades along the side. The best way to accomplish this is to play 2. No matter which way White answers, 'a' or 'b', Black will come out ahead.

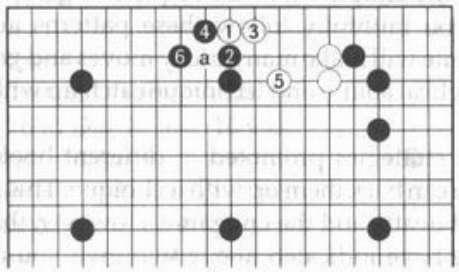


Dia. 8

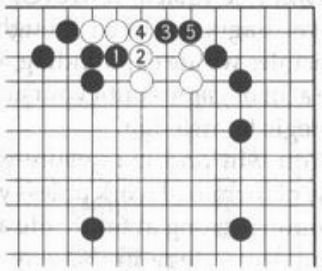
In response to Black 2, if White pulls back to 3 in *Dia. 9*, Black will block with 4. When White completes his position with 5, Black defends his weak point at 'a' with 6. White will probably play his next move elsewhere, but his stones are not yet secure.

White will always speed around, leaving weak groups, so Black must be ready to apply the knockout punch.

The first chance Black gets, he should attack with 1 in *Dia. 10*. If White 2, Black strikes at the vital point of 3. If White 4, Black links up to the corner with 5 and White's stones are left floating eyeless in a sea of black stones. While White is struggling to get two eyes, Black can be securing territory on the right side as well as making a box shape on the left. If White 4 at 5, Black catches two stones by playing 5 at 4 and White's group again must struggle to get two eyes.



Dia. 9

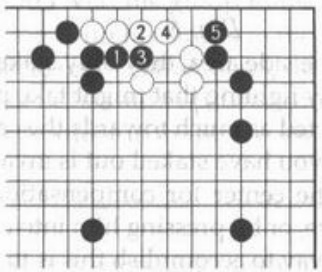


Dia. 10

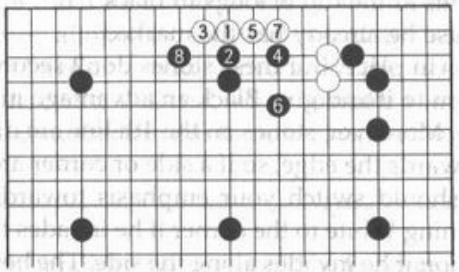
If White plays 2 and 4 in *Dia. 11* in response to 1 and 3, Black defends the corner with 5. White's group again lacks two eyes, while Black is getting stronger on the left and the right.

What happens if White moves into Black's territory with 3 in *Dia. 12*?

Black's strategy should be to press White into a low position with 4 and 8 on the second line. After White 5, Black makes good shape with 6 and, when White links up with 7, Black continues with his strategy of keeping White confined to the second line. Don't play Black 6 at 7; you'll get cut up trying to kill White.



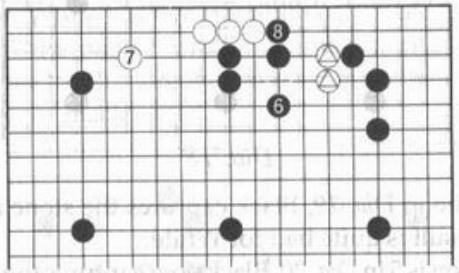
Dia. 11



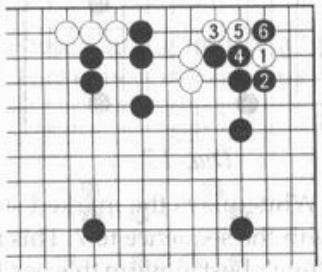
Dia. 12

After Black 6, White might switch the scene of action to 7 in *Dia. 13*. This time Black takes the territory in the upper right with 8. The two marked white stones have no room to make two eyes.

White can't live in this part of the board even by jumping into the corner with 1 in *Dia. 14*. Black blocks with 2 and plays the sequence to 6. There is no way that White is going to get two eyes at the top.



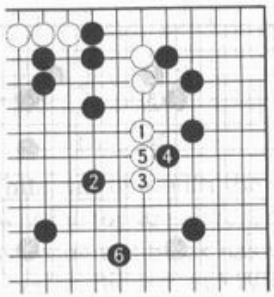
Dia. 13



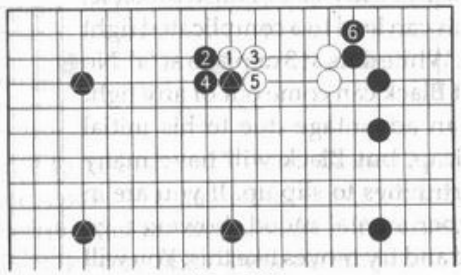
Dia. 14

Running away with 1 and 3 in *Dia. 15* is futile: Black has too many stones in the center. Black casts a net with 2 and 6; there is nowhere for White to go.

White 1 in *Dia. 16* is another weak point of the side star-point stone. Black should press White from the outside with 2, then connect with 4. White makes a small group at the top with 5, but Black takes the territory in the upper right corner with 6. Because of this move, White's group is still insecure, so he will probably have to move out into the center to get his eyes. Black can continue to harass the group in the process.



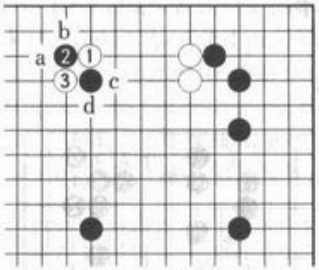
Dia. 15



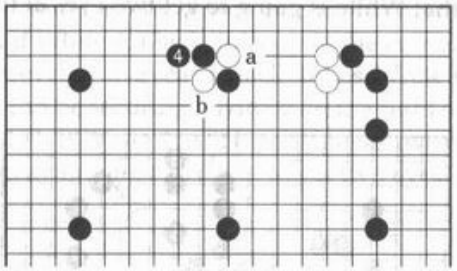
Dia. 16

White might crosscut at 3 in *Dia. 17* in response to Black 2. There is a proverb which says 'When caught in a cross cut, extend!' But which way? There are four points to which Black can extend: 'a', 'b', 'c', and 'd'.

Extending to 4 in *Dia. 18* is the simplest way to play. This move makes two simultaneous threats: capturing a stone on the edge by playing at 'a' and capturing a stone in a ladder with 'b'.



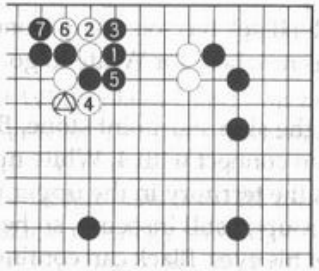
Dia. 17



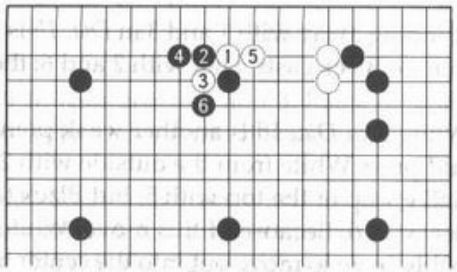
Dia. 18

If White plays the marked stone in *Dia. 19*, Black captures the stone at the top with the sequence to 7. This result is quite bad for White.

White's best move in this position is 5 in *Dia. 20*. Black now captures the stone at 3 in a ladder with 6.

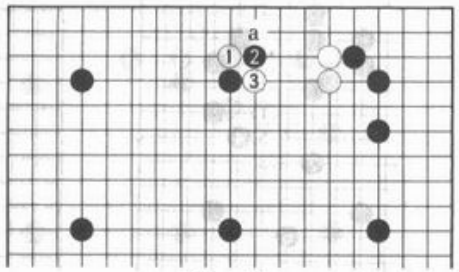


Dia. 19



Dia. 20

Black at 2 in *Dia. 21* is also possible, but this can lead to a complicated fight when White cuts at 3 or plays at 'a'. No doubt Black can come out of any fight with an advantage due to his initial handicap, but Black will have many opportunities to slip up. If you are in an experimental mood, however, go ahead and try moves like this. You will probably learn something.

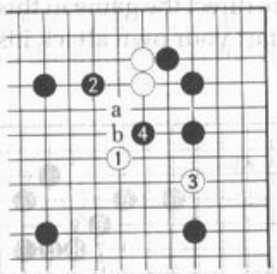


Dia. 21

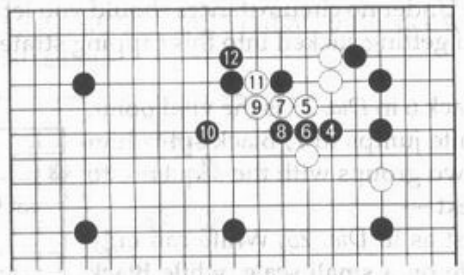
But you should also master the orthodox strategy of Black 2, 4, and 6 shown in *Dia. 16*. White is forced to make a small compact group, vulnerable to attack. In the process of confining White's stones with 2 and 4, Black builds influence that works together with his marked handicap stones. He then makes solid profit in the right corner with 6, a move that quietly threatens the eye-forming ability of White's group.

Jumping lightly out into the center with 1 in *Dia. 22* is another move White might try. Black hits the vital point at 2. Next, ensuring a connection by playing White 'a' would leave White's stones eyeless and vulnerable, so he switches to 3, hoping to create complications. Black 4, however, splits White into two groups. White has two possibilities: 'a' and 'b'.

If White plays 5 in *Dia. 23*, his group at the top is in big trouble after the sequence to 12. Moreover, his stones on the right are almost meaningless in the shadow of Black's wall.

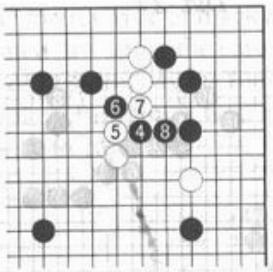


Dia. 22

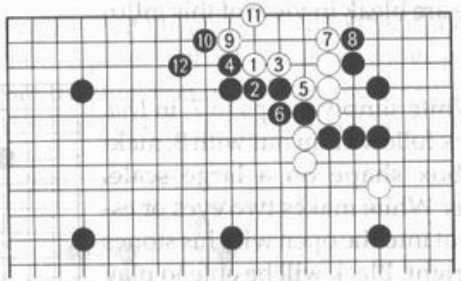


Dia. 23

That leaves White 5 in *Dia. 24*. But White's stones are separated into two groups in the sequence to Black 8. Can the white stones at the top get two eyes?

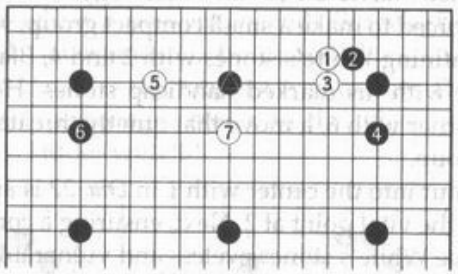


Dia. 24



Dia. 25

White can live with the sequence to 11 in *Dia. 25*. After Black 12, White's stones at the top are alive, but he must now take care of his stones on the right. In this sequence, Black has taken territory in the upper right corner and built influence on the left, but White must take care of his stones on the right which are still under attack. Black should be able to profit from this as well.

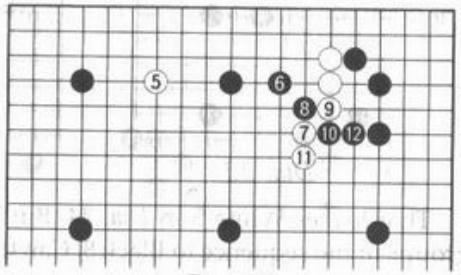


Dia. 26

The sequence to 7 in *Dia. 26* is a strategy used by White in high-handicap games. By capping the marked stone with 7, White hopes to throw the game into confusion if Black tries to escape, or to actually capture that stone on a large scale. Under no circumstances should you let White direct the game in this way. Avoid getting sucked into this capping strategy: start your own attack instead.

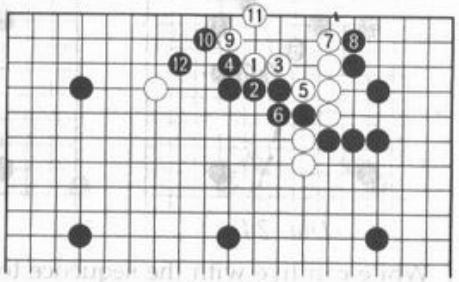
Black 6 in *Dia. 27* is the vital point. If White jumps to 7, Black splits him into two groups with the sequence to 12. Next —

Just as in *Dia. 25*, White can only get life on a small scale, while Black builds overwhelming influence in the sequence to 12 in *Dia. 28*. The prospects for the three white stones on the outside are bleak in view of this influence.



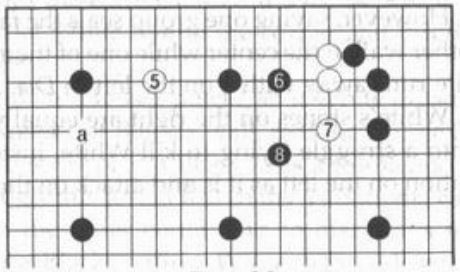
Dia. 27

If White simply jumps to 7, in *Dia. 29*, Black follows him out with 8, making a box shape on a large scale. Whether White makes two eyes or escapes out into the open with his stones on the right, Black will be able to play the point 'a', putting the white stone at 5 under pressure.



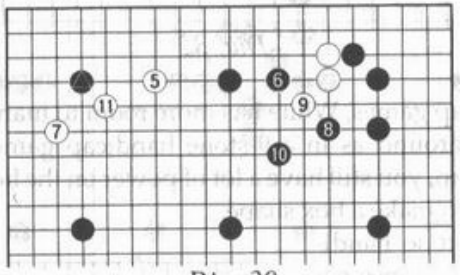
Dia. 28

What do you do if White ignores 6 and plays another approach move against your marked stone in the left corner with 7 in *Dia. 30*?



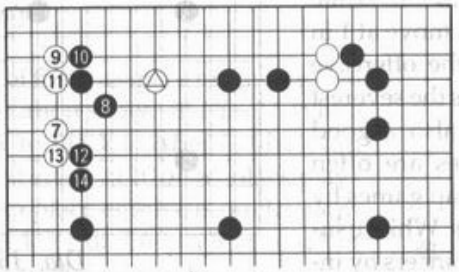
Dia. 29

You could ignore it and take profit by catching the white stones on the right with 8 and 10. White could then confine the marked stone with 11. Although this stone can live, it would show a more positive attitude for you to keep the moves 8 and 10 in reserve and pull the marked stone out into the center by playing 8 at 11. In *Dia. 30*, the white stones at 7, 11, and 5 radiate influence which nullifies the influence of the handicap stones.



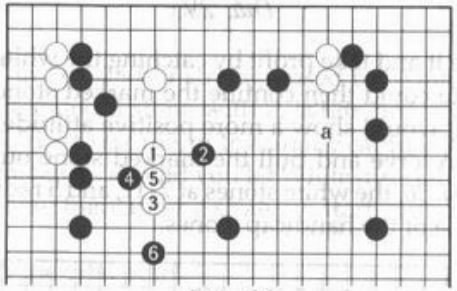
Dia. 30

The main virtue of Black 8 in *Dia. 31* is that the marked white stone and 7 are separated. Invading the corner at the 3–3 point with 9 is the usual move in these kinds of positions. Black blocks from the direction of 10 in accordance with the principle of building a wall in the direction of his strength (which he does in the sequence to 14).



Dia. 31

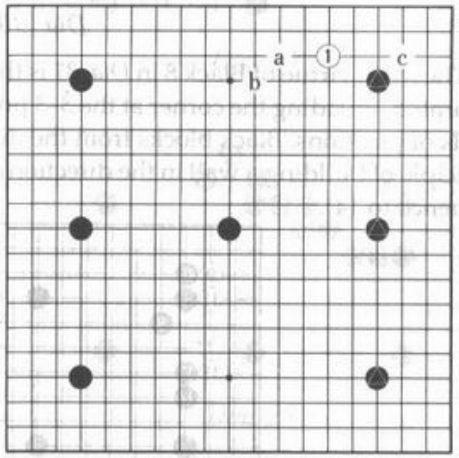
Black now has strong positions on the left and right. White must try to save his stones at the top. However, saving one group seals the fate of the other, since Black will build another wall in the center while one of them is trying to escape. For example, if White runs away with 1 on the left in *Dia. 32*, Black 2, 4, and 6 attack him severely. White's stones on the right are equally vulnerable. If you don't want to get into a struggle trying to kill White, instead of Black 6, you could leave the situation on the left as it is and attack on the right by playing at 'a'.



Dia. 32

In lower handicap games, White has more room to maneuver, so it is not as easy to push him around as in a 9-stone handicap game. However, with a seven-stone handicap, you still have a lot of power on the board and again your strategy should be to make a box shape.

With 6- and 7-stone handicaps, your handicap stones occupy the three star-points along both sides of the board. This is the sanren-sei formation (the three marked stones on the right side in *Dia. 33*) which we saw in Chapter One (*Dia. 51*). If White makes an approach move at 1 in *Dia. 33*, going on the offensive with a pincer at 'a' is the severest reply. Black 'b' is also a good move. These moves are often used in non-handicap games by professional players. White usually answers these pincers by invading the corner at 'c'.

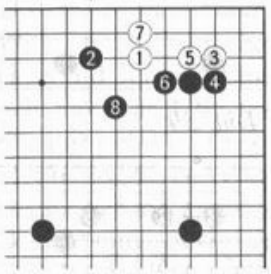


Dia. 33

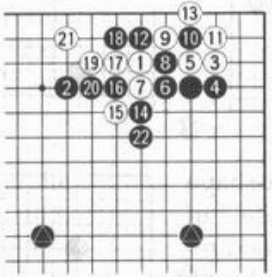
If White invades the corner with 3 in *Dia. 34*, this is the kind of result you should strive for: let White live in the corner and build a box shape with the sequence to Black 8.

Black 2 in *Dia. 35* is a looser pincer, so if White invades at the 3–3 point, his corner is much larger, but Black's wall, making up the box shape, is also on a grander scale. The sequence to Black 22 is a joseki and the order of moves is important. Although this joseki has many variations, each move has a reason and deviations in the order could lead to disastrous results. But the overall strategy is the same: Black confines White to the side and makes a box shape in combination with his two marked stones.

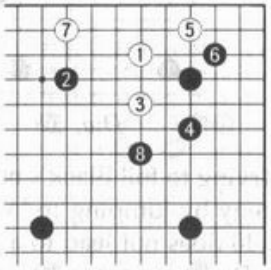
Against Black 2, White might try to foil Black's box-shape strategy by jumping to 3 in *Dia. 36*. The sequence to Black 8 is another joseki. Although Black hasn't been able to make his box shape, his territory on the right side is almost secure.



Dia. 34



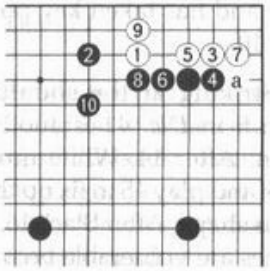
Dia. 35



Dia. 36

The pincer of Black 2 in *Dia. 34* leaves White with the least room to maneuver and, for that reason, we recommend that you adopt it in your handicap games until you get more experience. We will look at a few variations of this pincer and give you some suggestions as to what to do if White tries to foil your strategy of making a box shape.

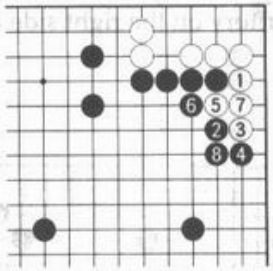
The basic joseki of the one-space pincer is given in *Dia. 34*. In the variation shown in *Dia. 37*, White plays 7 in response to Black 6. After 8, Black can play his next move at either at 10 or 'a'. Black plays 10 when he wants to place emphasis on developing or defending the left side. He plays at 'a' when he wants to emphasize the right side.



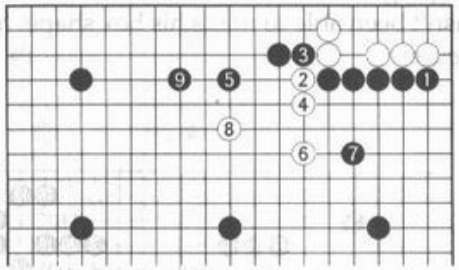
Dia. 37

Later, White can play the sequence to 8 in *Dia. 38*, making a big dent in Black's territory on the right side. Black could resist more strongly by playing 2 at 7, but this might be dangerous because of the cutting point at 5. The way Black defends depends on the position on the right, but the sequence to Black 8 is the safest.

Black 1 in *Dia. 39* is also a strong move, especially in a 7-stone handicap game. In an even game, White would play the sequence from 2 to 8, but when Black has stones on the star points, this is unreasonable. Black is making territory on the right and at the top, while White's stones are floating in the center.

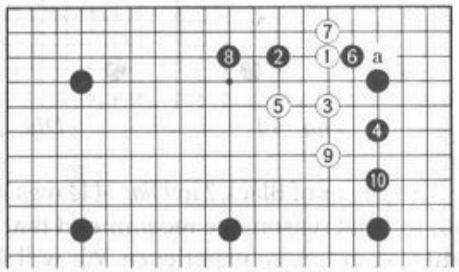


Dia. 38



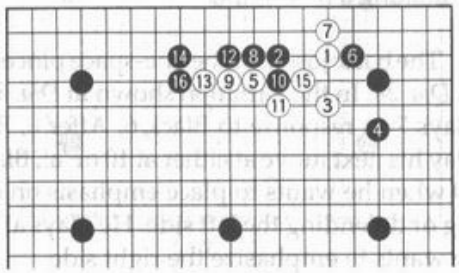
Dia. 39

Trying to foil Black's box-shape strategy by jumping to White 3 in *Dia. 40* does not lead to a good result. The sequence to 10 is only one variation, but White's stones are eyeless (note the exchange of 6 for 7, without which White could get an eye by attaching at 'a') and vulnerable. Black, on the other hand, has staked out territory on the right side and has taken key points at 8 and 10.



Dia. 40

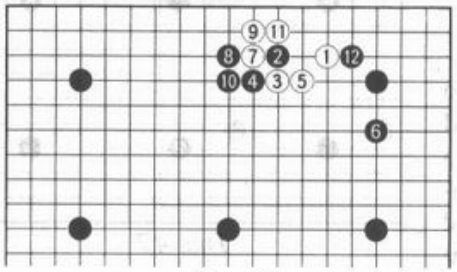
Striking at the shoulder of 2 with 5 in *Dia. 41* is another variation. After 14, White must come back and play 15 to fix up the defect in his shape. After Black 16, White's stones are vulnerable because they lack eyes.



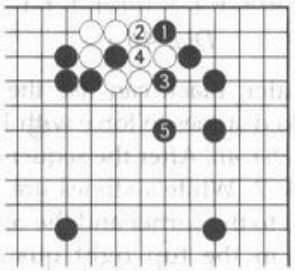
Dia. 41

Attaching at 3 in *Dia. 42* is another tactic that White can try. After exchanging 4 for 5, Black jumps to 6. White captures a stone with the sequence to 11 and the joseki comes to a pause with Black 12. Black's box shape is beginning to take shape on the left with the stones at 8 and 10.

If White leaves the situation as it is, Black can later play 1 and 3 in *Dia. 43*. After White 4, Black makes shape on the outside with 5, securing territory on the right side.

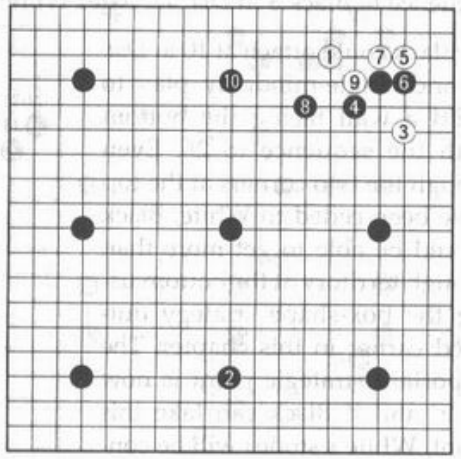


Dia. 42

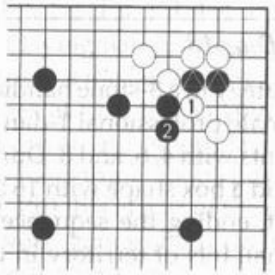


Dia. 43

With a 6- or 7-stone handicap, Black could ignore White's approach move at 1 by taking an empty star point on the opposite side with 2 in *Dia. 44*. When White makes his second approach at 3, Black must move out into the center with 4, at which point White will usually invade the corner with 5. The sequence might continue to Black 10; then, except for the top right sector of the board, Black might feel as if he is playing with a 9-stone handicap.

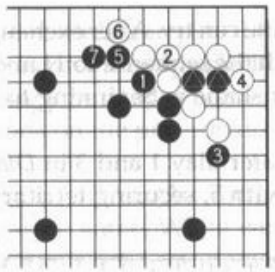


Dia. 44

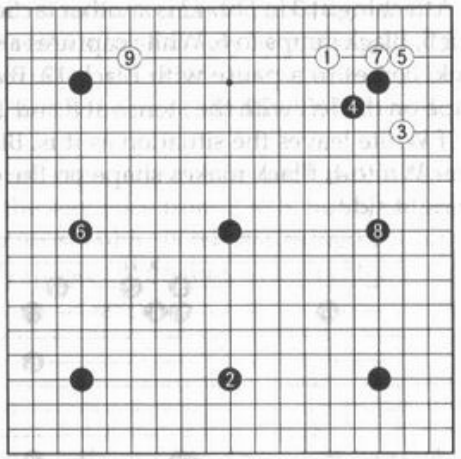


Dia. 45

White can capture the two marked stones with 1 in *Dia. 45*, but this should be of little concern. Black can play 2, walling off the center. White has taken some profit in the top right corner, but Black has linked up and utilized his handicap stones and has built up an insurmountable lead.



Dia. 46

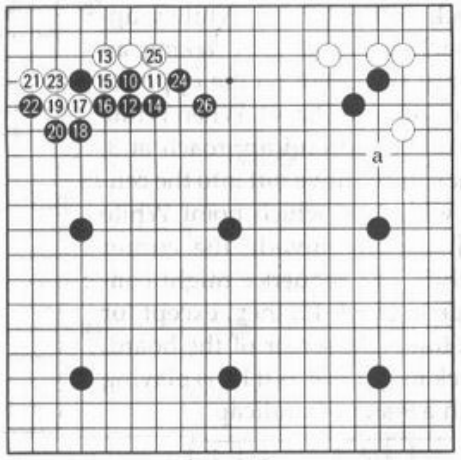


Dia. 47

Later, Black can use the two marked stones to force with 1 and 3 in *Dia. 46*. After the sequence to Black 7, White's stones are confined to the corner and the central area in the top right quadrant should become black territory.

You could also use this strategy in a 5-stone handicap as shown in the sequence to Black 8 in *Dia. 47*. After White 9 —

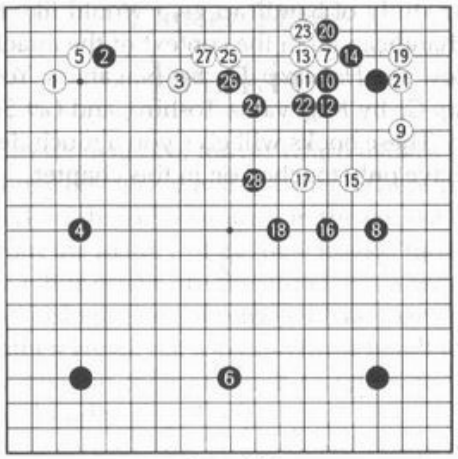
Black could attach at 10 in *Dia. 48* and single-mindedly play to build a wall facing the bottom with the sequence to 26. Even though the two corners at the top have been ceded to White, Black should be able to get more than enough territory at the bottom using the box-shape strategy outlined earlier in this chapter. The important strategic point is now at 'a' and if Black can take this point, White's stones will be confined to the top.



Dia. 48

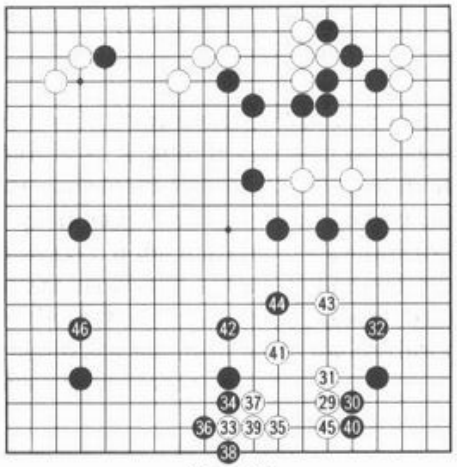
Dia. 49 illustrates an example of the box-shape strategy in a 3-stone handicap game; the author played Black against a Chinese female professional 1-dan.

Black immediately takes three of the side star-points with 4, 6, and 8. During the fighting in the upper right, Black manages to build a box shape with 16 and 18. He then extricates his group from the top right, ending the sequence by taking the strategic point of 28. White has taken small bits of territory in two corners and at the top, but strategically Black has a won game.



Dia. 49

White next switches to the lower right with an approach move at 29 in *Dia. 50*, but the strength Black has built up in that sector doesn't allow White to gain any advantage there either. White just manages to live in the sequence to 45, but Black has claimed the territory in the lower right corner and built up more influence in the center. Finally, Black reinforces the left side with 46. White is rapidly falling behind.



Dia. 50

Playing handicap go using the attacking style that we have outlined in this chapter is the fastest way to become a strong player. You may lose many of your games at first, but as your technique improves, you will become a formidable opponent and other players will no longer want to give you large handicaps. The hard thing about this strategy is securing the territory you have mapped out. But this is part of the middle-game technique that you will be faced with in all your games, both even and handicap games. We will discuss this topic in Chapter Four.

To continue your study of handicap go, I would like to recommend three books that analyze handicap go in the context of the attacking style presented in this chapter. They are *Handicap Go* by Nagahara Yoshiaki, *Kage's Secret Chronicles of Handicap Go* by Kageyama Toshiro, and *Get Strong at Handicap Go* by Richard Bozulich. These books will give you a much deeper understanding of the concepts we have only touched on in this chapter.

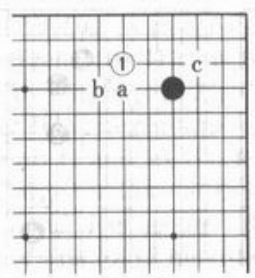
Chapter Three
Josekis

Josekis are standard sequences of moves which usually arise from the initial approach moves and pincers played in the corners. There are also middle-game josekis that are played on the sides or arise in the course of attacks on corner enclosures. Throughout the history of go, new josekis have been continuously created; some remain while others are discarded. For a sequence to qualify as a joseki, the moves must be logical and natural with neither side gaining an undue advantage over the other. However, a joseki whose result may be judged equal in one position may give an inferior result to one side in another position. Therefore, one cannot blindly play a sequence in a corner just because it is a joseki; one must always consider the whole-board position and how stones in one part of the board relate to stones in another.

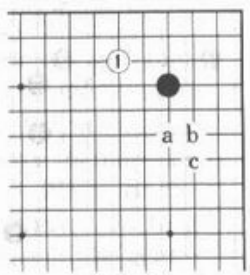
In the preceding two chapters, we have already seen a number of josekis and we will introduce a few more here. The emphasis here will be on the principles used to choose a joseki in relation to the other stones.

Josekis Starting from the 4–4 Point

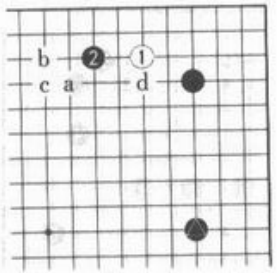
Against a 4–4 point stone, the small knight's approach of White 1 in *Dia. 1* is most often played. Other approach moves at 'a' and 'b' can also be played in special circumstances, but they both have one main drawback: a corner invasion at 'c' is no longer an effective follow-up strategy. The usual black responses to White 1 are 'a', 'b', and 'c' in *Dia. 2*. However, if the marked black stone in *Dia. 3* is in place, pincers at Black 2 or 'a' are especially severe. Other commonly played pincers are at 'b' and 'c' even without the marked stone present. Attaching at 'd' is a special strategy used when Black wants to settle the territory on the right side quickly and build influence towards the center.



Dia. 1



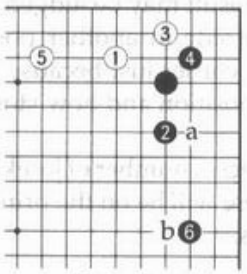
Dia. 2



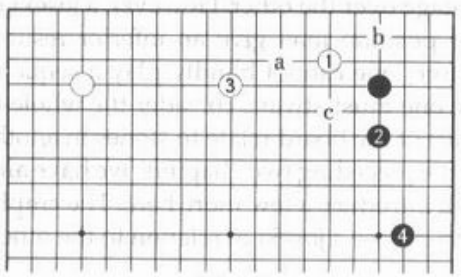
Dia. 3

If the right side is unoccupied by White, the one-point jump of Black 2 (or 'a') in *Dia. 4* is the standard response to White 1. The sequence to Black 6 is the basic joseki. White gets a stable position at the top while Black lays claim to the territory on the right side. If Black had started out with a stone at either 6 or 'b', Black 2 would be even better.

If White has established a position in the left corner, he can also extend lightly to 3 in *Dia. 5* after Black 2. Black 4 completes the joseki. In this case, White's position is thin, so Black can aim at the invasion of 'a'. Before doing so, Black might first jump to 'b' to secure the area in the top right corner, but this would give White time to reinforce his position by jumping to 'c'.



Dia. 4

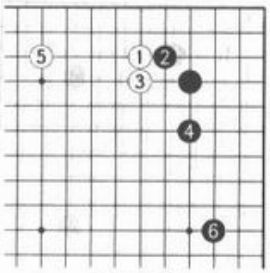


Dia. 5

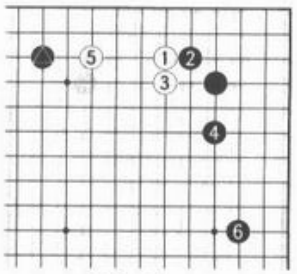
If the upper side is open, attaching with 2 in *Dia. 6* before jumping to 4 is not good. White can now make an ideal extension to 5 from his two stones at 1 and 3.

If Black has the marked stone in place in *Dia. 7*, however, then attaching at 2 is a good move. The farthest White can naturally extend is 5, but from the two stones 1 and 3 this extension is a bit narrow, so White's stones are not working to their maximum efficiency.

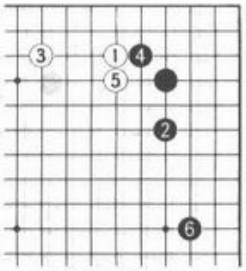
If White reverses the order of moves in *Dia. 4* and first extends to 3 in *Dia. 8*, Black will attach at 4, forcing White 5, and White's stones end up a bit overconcentrated.



Dia. 6



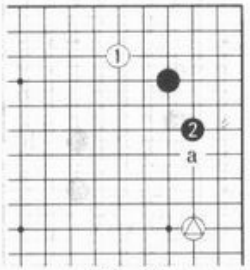
Dia. 7



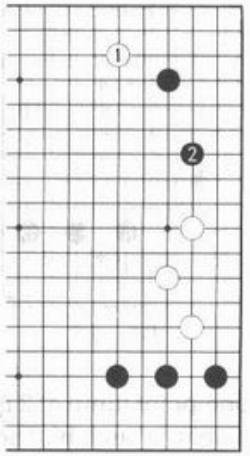
Dia. 8

If White has the marked stone in *Dia. 9* in place or a stone anywhere along the right side, the appropriate answer to White 1 is the small knight's extension of Black 2 or sometimes the large knight's extension at 'a'. The reason is that were Black to play 2 in *Dia. 10*, White could aim at 'a', the underbelly of Black's position, undermining the base of his two stones at the top.

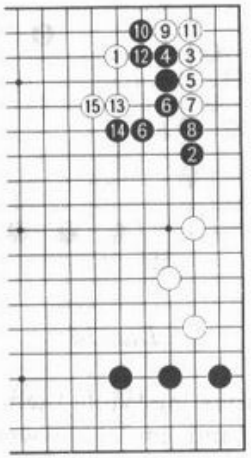
If White had a strong position at the bottom, Black 2 in *Dia. 11* would be inappropriate. White could invade at 3 in *Dia. 12* and a sequence like the one shown here would result. White lives in the corner and takes up positions both at the top and on the right side, leaving Black's stones without a base and vulnerable.



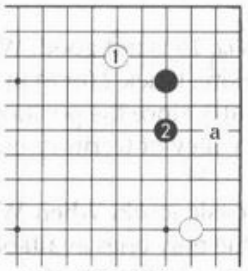
Dia. 9



Dia. 11

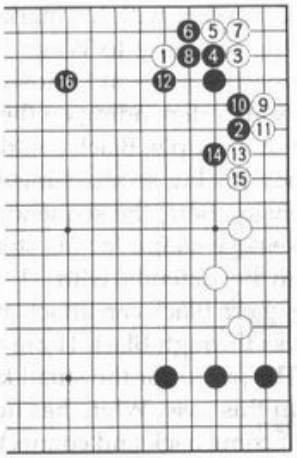


Dia. 12



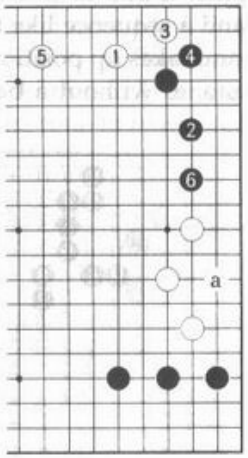
Dia. 10

When White has made the narrower extension at 2 in *Dia. 13*, he can live in the corner with the sequence to 11, but Black can get good shape by playing at 12, so his stones are in no danger. If White continues to play on the right side with 11 and 13, Black plays 16, mapping out a large territory at the top. White, on the other hand, has secured the corner territory, but it is small and his influence in the center hasn't been significantly increased.

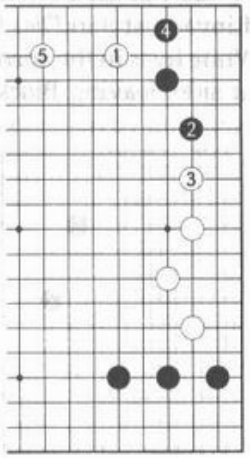


Dia. 13

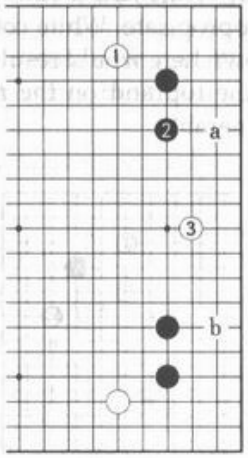
After Black 2, White might stabilize his position at the top with 3 and 5 in *Dia. 14*. Black would then play 6, aiming to undermine White's position on the lower right side with a placement at 'a' (see Chapter Nine). On the other hand, if White plays 3 in *Dia. 15*, Black secures territory in the corner by jumping to 4. In response, White must take up a position at the top with a move like 5.



Dia. 14



Dia. 15



Dia. 16

Answering White 1 with a one-point jump at 2 in *Dia. 16* is not good. White plays 3 and aims at two weak points, 'a' and 'b'. Therefore, Black 2 (or 8) in *Dia. 17* is a better move. Black would welcome an invasion at 3, since the position he builds up with 14 and 16 is beginning to form a large valley of territory on the right together with his marked stone below.

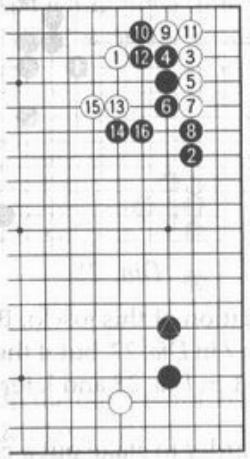
The sequence to White 5 in *Dia. 14* above is the basic joseki when White approaches move at 1. However, these moves are not the only ones available to Black and, depending on the circumstances, other moves might be better.

For example, Black could pincer at 1 or 'a' in *Dia. 18*. White has to settle his stones quickly, so attaching at 2 is the best move. In the case of the large-knight extension here, the sequence to Black 11 in *Dia. 19* is a joseki. Up to 10, White makes eye shape for his stones, while Black secures some profit on the right when he defends with 11. If White leaves the situation as it is and plays elsewhere Black can attack at 'a'. Note White 4; because of this sacrifice, all the moves through Black 11 are forced.

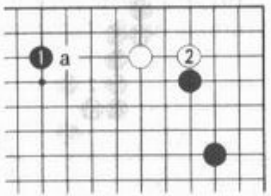
The joseki for the small knight's move (the marked stone) is shown in *Dia. 20*. In this case, White has no sacrifice tactic, so Black can atari at 7 and White must come back and connect at 10. Again, Black aims at 'a'.

If Black plays the one-space jump (the marked stone) in *Dia. 21*, the sequence

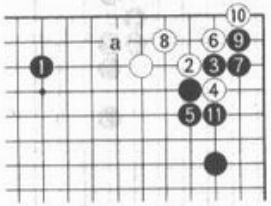
is identical to the one in *Dia. 20*. Again, Black aims at 'a'. Be warned that Black 5 in *Dias. 20* and *21* is an all-out move and White could create complications. The safe move would be to connect below 3 with 5.



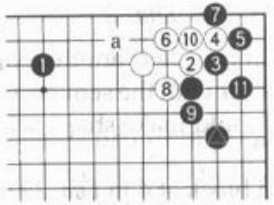
Dia. 17



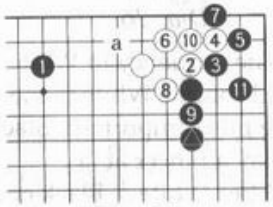
Dia. 18



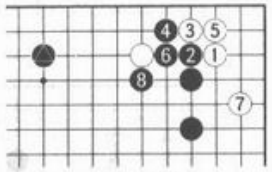
Dia. 19



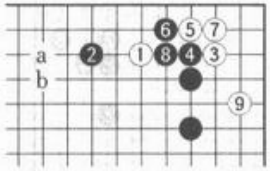
Dia. 20



Dia. 21



Dia. 22

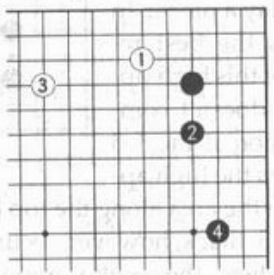


Dia. 23

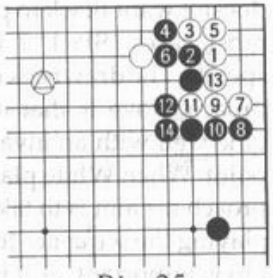
In response to a pincer such as the marked black stone in *Dia. 22*, it is not advisable for White to invade the corner with 1. Black's position on the outside is too good for the profit that White gets in the corner.

However, if Black plays a narrow pincer, such as 2 in *Dia. 23*, invading the corner with 3 is good. After the sequence to White 9, Black's stone at 2 is too close to his wall; it would be better placed at 'a' or 'b'.

After the sequence to Black 4 in *Dia. 24*, invading the corner with 1 in *Dia. 25* is possible. With White's marked stone in

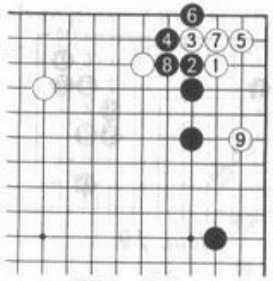


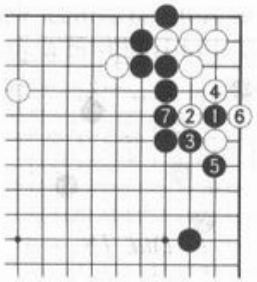
Dia. 24

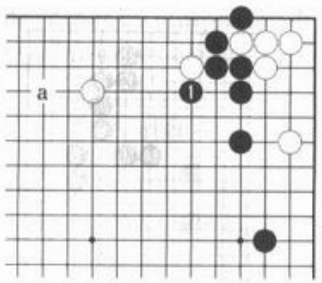


Dia. 25

place, the influence of Black's wall is nullified. Of course, Black gets a thick position facing the bottom after the sequence to 14. Whether or not this result is good for White depends on the position at the bottom.

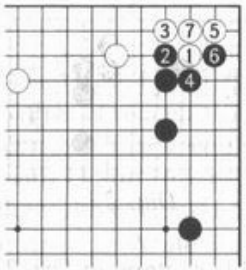

Dia. 26

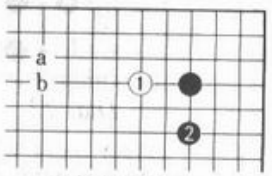

Dia. 27


Dia. 28

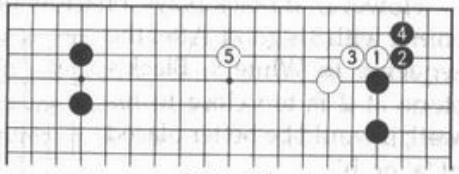
The sequence to White 9 in *Dia. 26* is another variation of this joseki. Black could confine White to the corner with the sequence to 7 in *Dia. 27*, but if the top were more important, Black would make shape with 1 in *Dia. 28* and later aim to play a pincer at 'a'.

After White 3, Black could block at 4 in *Dia. 29* in order to stake out a claim to the territory on the right side. Black ends in sente after the exchange of 6 for White 7.

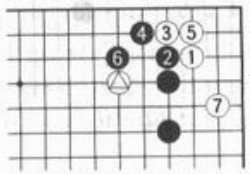

Dia. 29

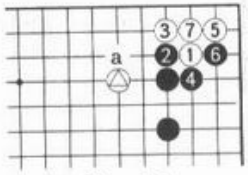

Dia. 30

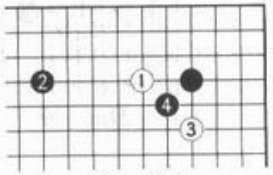
The one-space high-approach at White 1 in *Dia. 30* is used when White doesn't want Black to play a pincer. In most cases, Black 2 is the best response. The drawback of this high-approach move is that it doesn't combine well with an invasion at the 3–3 point. When White plays the high approach his aim is to take the area along the top by attaching at 1 in *Dia. 31*, then playing the sequence to 5. Black, however, secures the corner with 2 and 4. If the top is important, as it is here, the result is good for White.


Dia. 31

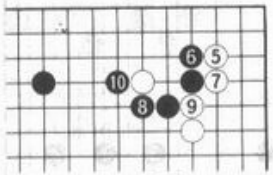
The reason invading the corner with White 1 in *Dia. 32* is bad is that the marked white stone is misplaced and Black can make good shape with 6. Moreover, if Black plays the sequence to 6 in *Dia. 33*, he could separate the marked white stone from the four white ones in the corner by playing at 'a' after White 7. Clearly, the marked white stone would be better placed at 'a'.

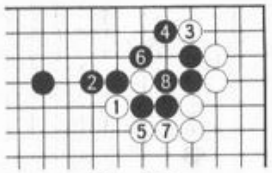

Dia. 32

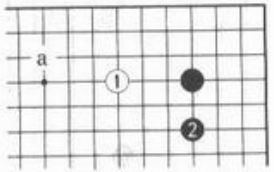

Dia. 33


Dia. 34

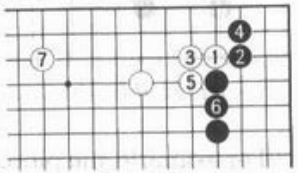
On the other hand, Black gets a bad result if he plays a pincer at 2 in *Dia. 34*. White plays a double-approach move at 3 and Black moves out into the center with 4. His aim is to take the area along the top, which he does with the sequence to 10 in *Dia. 35*. However, his position is defective and White can force him to capture a stone with the sequence to 8 in *Dia. 36*. In the process, White builds influence on the outside and Black's stones become overconcentrated.


Dia. 35


Dia. 36

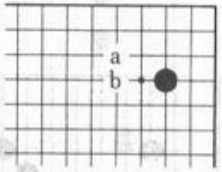

Dia. 37

The two-space high-approach move of White 1 in *Dia. 37* has even less effect on the black corner. This move is played almost exclusively in handicap games where White is employing some special strategy. Black will usually answer with 2, although a pincer in the vicinity of 'a' is also possible. As with the one-space approach move in *Dia. 30*, White can continue by attaching at 1 in *Dia. 38*. The sequence to White 7 is a joseki.

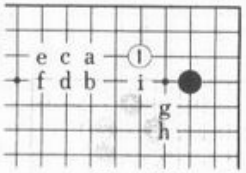

Dia. 38

Josekis Starting from the 3–4 Point

Against a stone on the 3–4 point, the standard approach moves are 'a' and 'b' in *Dia. 39*. From these two moves thousands of josekis arise. We will first look at the small knight's approach at 'a'.

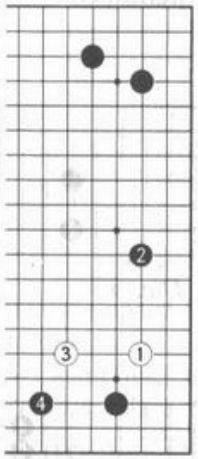


Dia. 39

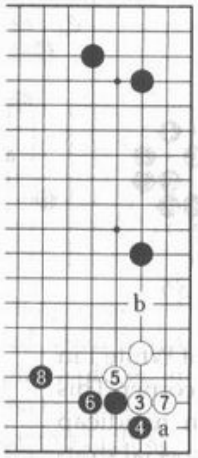


Dia. 40

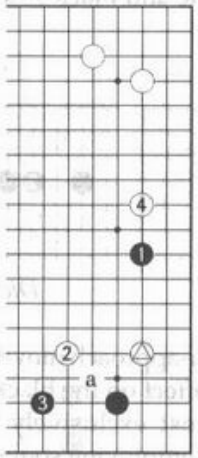
In answer to White 1 in *Dia. 40*, Black has a large number of moves to choose from: pincers from 'a' through 'f', the diagonal move at 'g', or the knight's move at 'h'. It is even possible to attach at 'i', but this move is used only in special cases. Although the diagonal move at 'g' and the knight's move at 'h' are good solid moves, pincers are more often employed in modern go because they enable you to develop your stones quickly.



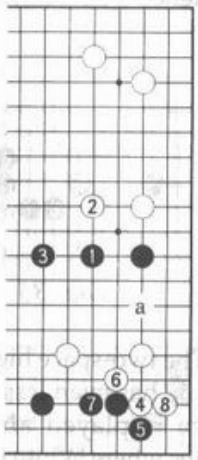
Dia. 41



Dia. 42



Dia. 43



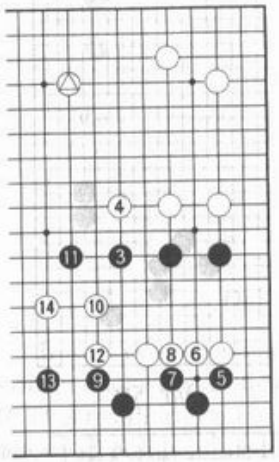
Dia. 44

For example, the pincer of Black 2 in *Dia. 41* is a powerful move. It not only attacks the white stone at 1, but it also extends from Black's corner enclosure at the top. White's usual response is to escape into the center with 3, whereupon Black takes territory at the bottom with 4.

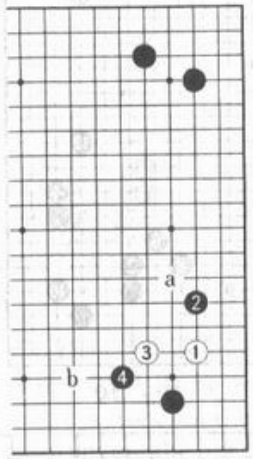
White could also attach at 3 in *Dia. 42* in order to make eye shape for his stones. The sequence to Black 8 is a joseki. White's stones will have no trouble living. If Black attacks at 'a', White extends to 'b'; if Black 'b', White can settle his stones with 'a'.

If it is White who has a corner enclosure at the top, as in *Dia. 43*, then a pincer at 1 loses much of its effect. White first exchanges 2 for 3, then plays a pincer of his own at 4, using his marked stone and 2 as backup. White 4 is also an excellent extension from White's corner enclosure at the top, so the pincer at 1 is a dubious move in this position and the diagonal move at 'a' would be a better choice.

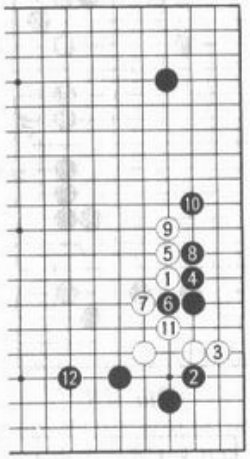
Black must either escape into the center with 1 in *Dia. 44* or to settle his stones with 'a'. White responds with 2, building a box shape together with his enclosure above. If Black jumps to 3, White will make a base with the sequence to 8.



Dia. 45



Dia. 46



Dia. 47

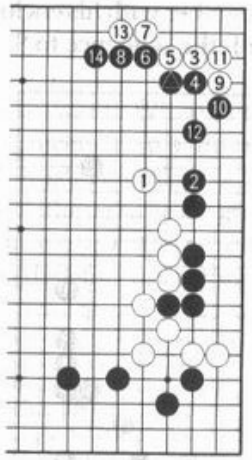
If White has the marked stone in place or one thereabouts, he might continue with 4 in *Dia. 45* to further build up his box shape after Black 3. In that case, Black would launch an attack on the white group at the bottom with 5, 7, and 9. The sequence to 14 is a joseki; White's endangered stones escape into the center, but Black gets profit at the bottom.

The narrower pincer of Black 2 in *Dia. 46* is severe and can lead to violent clashes. Jumping into the center with 3 is the most straightforward response. After Black 4, White can continue with either 'a' or 'b'.

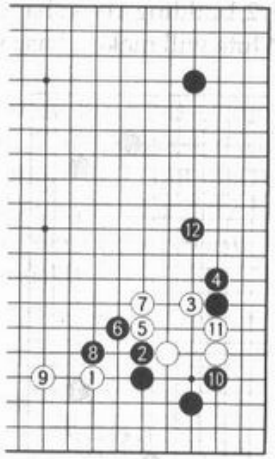
Pressing at 1 in *Dia. 47* leads to a joseki similar to one we saw in Chapter Two (*Dia. 41* on page 30). Locally, this result is good for Black. He has established positions on the right and the left and White still lacks a secure base. However, if Black has a stone on the star point (the marked stone) in the upper right corner

in *Dia. 48*, White would exchange 1 for Black 2, then invade at the 3–3 point. White lives in the corner and Black builds a wall with the sequence to 14. However, its influence is nullified by the presence of White's stone at 1.

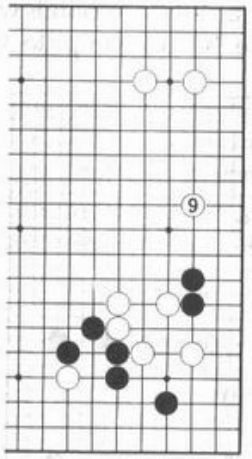
White could also attack from the left in *Dia. 49*. The sequence to 12 is the representative joseki. If Black had a position in the upper right corner — either a corner enclosure or a stone on the star point — this result would be good for Black. But if White had a corner enclosure (or a stone on the star point) as in *Dia. 50*, Black's result would not be so good. Instead of playing 9 in *Dia. 49*, White would severely attack with a pincer at 9 in *Dia. 50*. Black's two marked stones will be hard pressed.



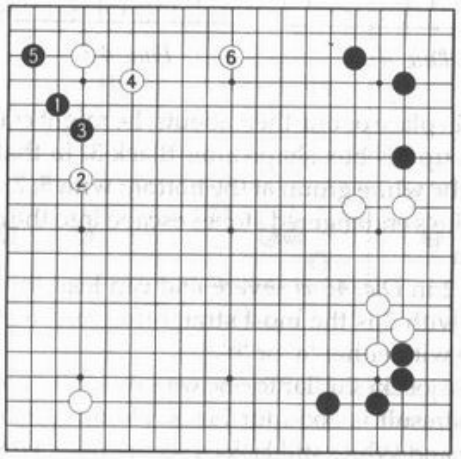
Dia. 48



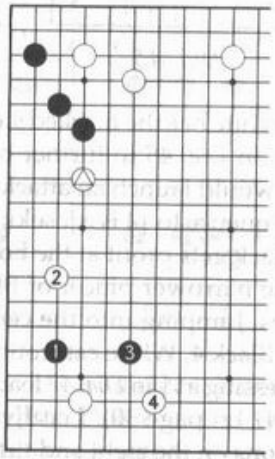
Dia. 49



Dia. 50

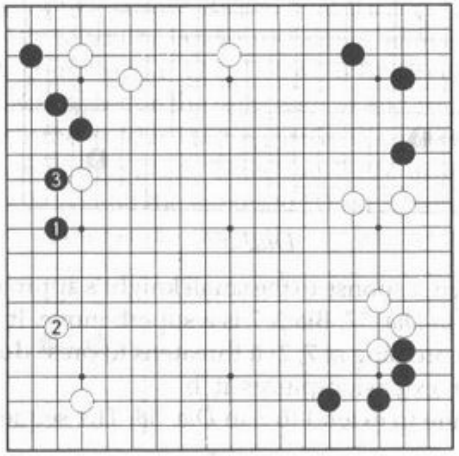


Dia. 51

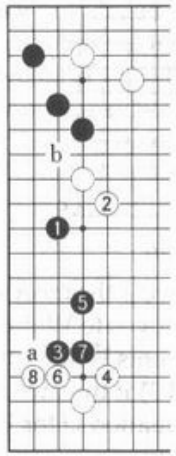


Dia. 52

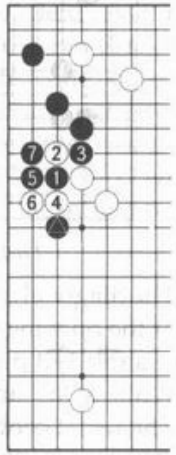
Positions often arise in the opening in which an approach move is not the best strategy. *Dia. 51* shows an example. After the joseki to White 6, an approach move in the bottom left corner with 1 in *Dia. 52* seems to be the natural continuation for Black. But White would then play 2, a move which is not only a pincer but also an extension from the marked stone. This gives White the initiative on the left side.



Dia. 53



Dia. 54

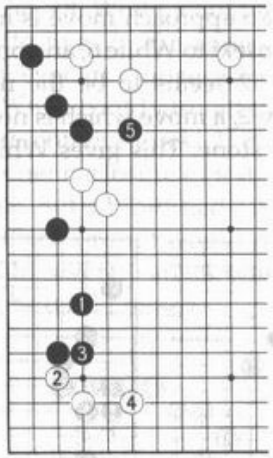


Dia. 55

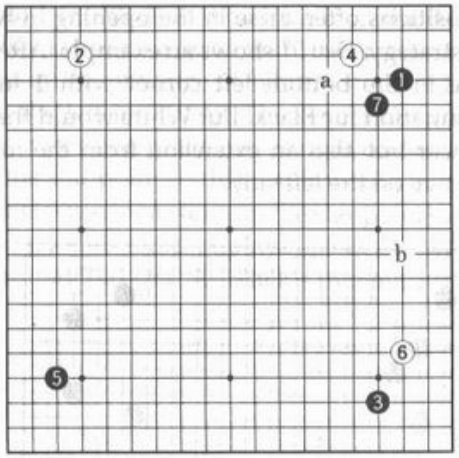
In this position, Black 1 in *Dia. 53* is an interesting move. If White makes a corner enclosure at the bottom with 2, Black links up his stones by attaching at 3. This result is good for Black: his stones at the top are secure and he has taken about 15 points of territory. Surveying the board, we see that Black has secured territory in three places while White's positions are a bit thin.

White might not let Black settle his stones on the left so easily. The diagonal move at 2 in *Dia. 54* prevents Black from linking up as he did in *Dia. 53*. If Black does attempt a link-up, the sequence to 6 in *Dia. 55* severs the marked stone from its allies at the top. Therefore, Black must establish a base on the lower left side. He does this by extending to 3 in *Dia. 54*. White's best answer is the diagonal move at 4; the joseki to 8 now follows. White's area in the lower left corner has become secure territory and he has an opening into Black's territory at 'a'. He can also threaten Black's stones at the top with 'b'.

The diagonal move of 4 in *Dia. 54* is important. If White were to play this move elsewhere, Black would strengthen his position on the left with 1 in *Dia. 56* (next page). White would be compelled to defend his stones at the bottom with 2 and 4, but Black could then occupy the key point of 5, taking the initiative on the left side and isolating the two white stones in the center.



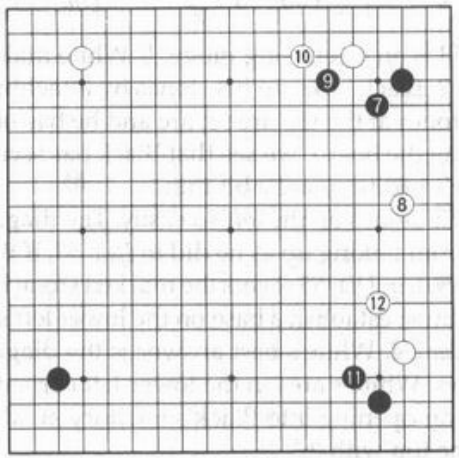
Dia. 56



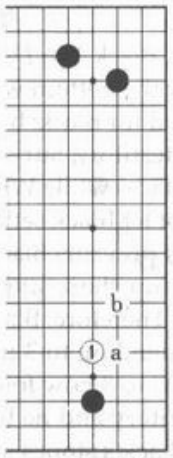
Dia. 57

The diagonal move is the most solid response to the small knight's approach. After the opening moves to White 6 in *Dia. 57*, Black 7 is a superb move. It has three aims: 1) it prevents White from pressing at 7; 2) it threatens to press down on White at 'a'; and 3) it threatens an extension-pincer at 'b'.

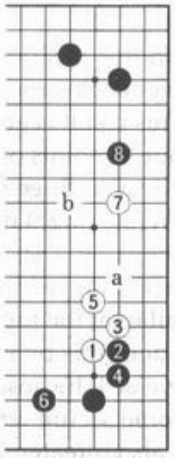
The usual continuation is for White to extend to 8 in *Dia. 58*. The sequence to 12 is one possibility.



Dia. 58



Dia. 59



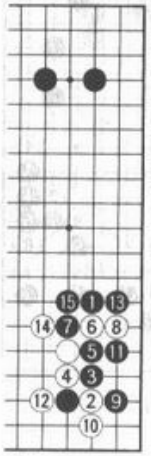
Dia. 60

Besides the small knight's approach, the one-point high approach of White 1 in *Dia. 59* is also played. Black usually approaches at 'a' when he has a corner enclosure at the top, but a black pincer at 'b' also also works well with the enclosure above.

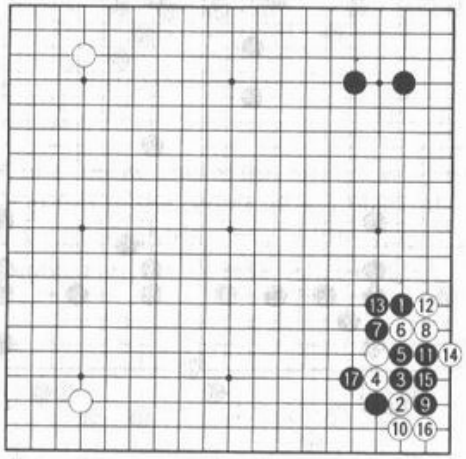
When Black attaches at 2 in *Dia. 60*, the joseki to White 7 is one possibility. With the corner enclosure at the top, Black 8 is a strong move — it threatens an invasion at 'a'. Jumping to 'b' would defend against this invasion, but if White wanted to develop quickly, he would omit this move and play elsewhere.

The pincer at 'b' in *Dia. 59* is a powerful move, but, before playing it, the overall position must be considered, as there is a ladder to take into account.

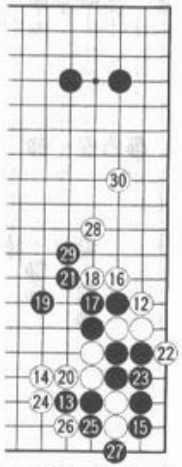
The basic joseki that arises from this pincer is shown in *Dia. 61*. If Black had the one-point corner enclosure at the top, this would be an excellent result for him. However, the ladder mentioned above must be considered. After Black 11, White could turn at 12 in *Dia. 62*. If Black connected at 13, White would go after the black stones on the right with 14 and 16. The only way Black can rescue them is with the ladder starting with 17. In this position, however, the ladder is unfavorable for Black. Therefore, Black would have to respond to White 12 with 13 in *Dia. 63* and the moves to White 30 would follow. But now the influence of Black's corner enclosure at the top has been neutralized.



Dia. 61



Dia. 62

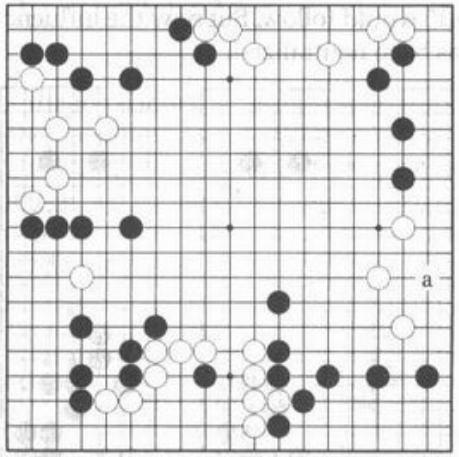


Dia. 63

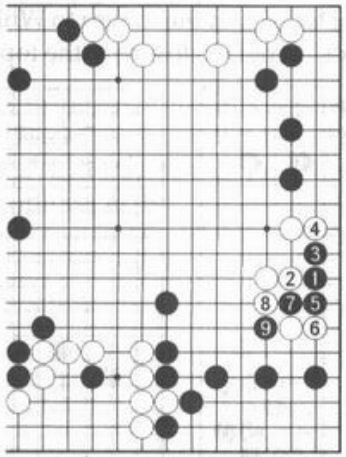
In this brief introduction to josekis, we have tried to give you some general principles about how to choose josekis in relation to stones in other parts of the board. The treatment here has been brief, so I would like to refer you to some other materials to continue your study of this important subject. You should start with *38 Basic Josekis* by Kosugi Kiyoshi and James Davies to get an overall view of the field. You can then begin studying *Get Strong at Joseki, Volumes 1 to 3*. This set has some of the most recent joseki innovations, as well as the old, time-tested josekis, and it will give you a solid foundation in josekis. Finally, the three-volume *Dictionary of Basic Joseki* by Ishida Yoshio is a thorough survey of the field and will be a useful reference on this extensive topic.

Chapter Four
Securing Territory by Attacking

The middle game begins when both sides have laid claim to their respective territories. When you are on the offensive, you will have two objectives at this stage of the game: one is to secure and expand the territories you have mapped out in the opening, and the other is to destroy and reduce your opponent's. Ideally, both these objectives can be accomplished at the same time, that is, you should expand–secure your territory while you are reducing–destroying your opponent's. The position in *Dia. 1*, which arose from the example in *Dia. 14* on page 38, illustrates this strategy.



Dia. 1



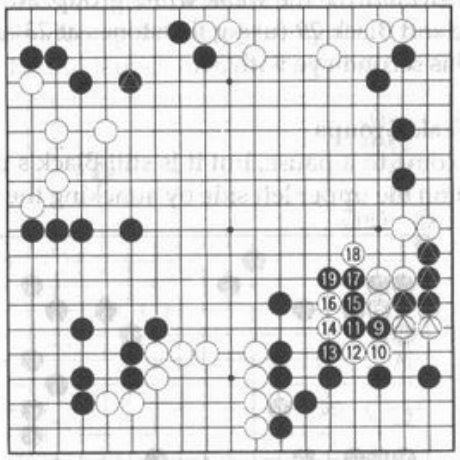
Dia. 2

The attacking point for Black is at 'a'. By playing here Black threatens to link up the invading stone with his allies either above or below. If he succeeds in this link-up, White will be robbed of his base and he will have to seek eyes in the center. Moreover, the territory that these three white stones were mapping out will disappear.

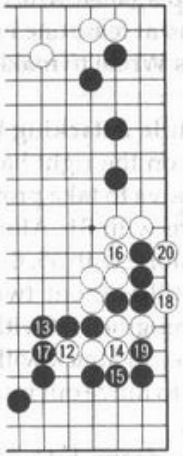
White 2 in *Dia. 2* is the strongest response. White continues to resist with 4 and 6, trying to prevent Black from linking up. Cutting at Black 9 is a good move, but there is a ladder to be considered.

The ladder is shown in *Dia. 3*. The marked black and white stones are in a capturing race and, if Black is to win this race, he has to be able to block at 13. But White sets up a ladder with 14, 16, and 18. Fortunately, because of the marked stone in the upper left, the ladder favors Black. Therefore, White can't

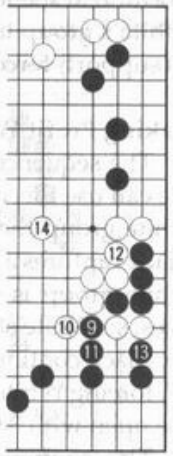
play 10 and 12 because he will lose his stones in the lower right. If the ladder were unfavorable for Black, he would have to extend to 13 in *Dia. 4*, but White would then connect at 14 and Black would lose his four stones on the right in a capturing race by one move as seen in the sequence to White 20.



Dia. 3

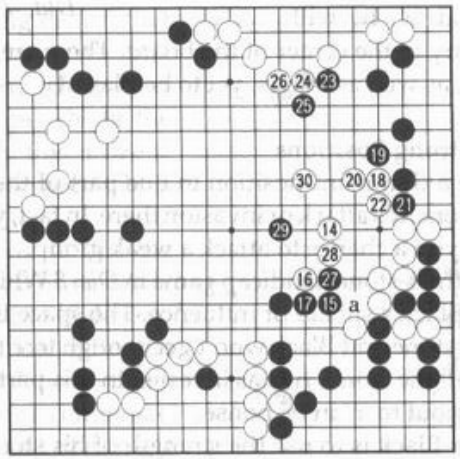


Dia. 4



Dia. 5

Consequently, White has no choice but to atari with 10 in *Dia. 5* and try to get two eyes for his group in the center. When Black plays 13, he secures the territory in the corner by capturing two white stones and takes away the territory White had staked out on the side. After White 14 —



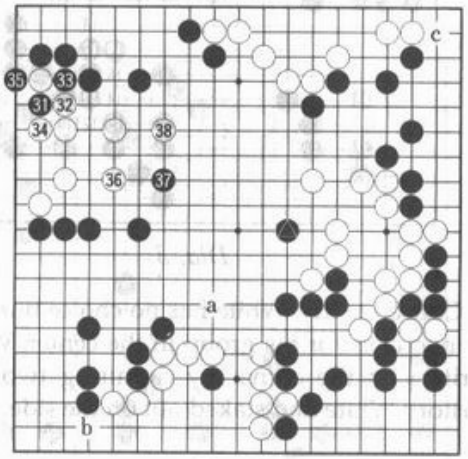
Dia. 6

Black keeps up the pressure on White's group with 15 in *Dia. 6*. This forces White to make eyes above with 18, 20, and 22, but these moves give Black an opportunity to strengthen his territory in the top right with 19 and 21.

Next, Black plays forcing moves with 23 and 25, in order to build up a strong position at the top against which he can drive the weak white group. After 28, White's group has at least one eye and Black 29 (using the stones at 23 and 25 as support) forces White to make his second eye with 30.

Taking Profit While Attacking Weak Groups

The sequence on the right has come to a pause, but it is still Black's move. He can use this move to take profit on the upper left side by attacking the weak white group there with 31. After Black captures a stone with 35, the white group is still without two eyes, so White strengthens it with 36. Black continues to attack with 37, forcing White to move out into the open with 38.



Dia. 7

The sequence from 1 to 37 shown here is a good example of how to take profit while attacking weak groups. Not only has Black taken profit in both the lower right and upper left corners, but he has also formed two sides of a box shape with his marked stone and 37. If Black plays at 'a', he will make a large territory in the center of the board. There are also large endgame points at 'b' and 'c', as well as others, yet to be played.

How to Use your Strong Positions

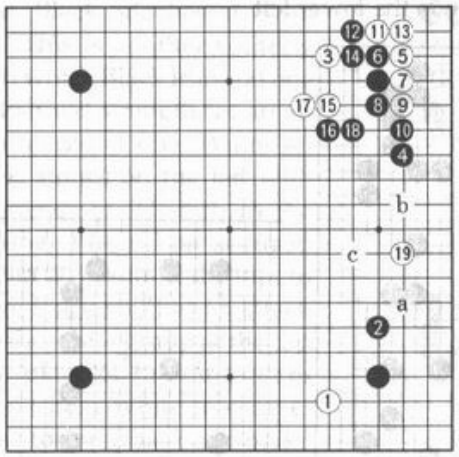
When you have a dominant position in one part of the board, you should never fear your opponent's attack or invasion there. In fact, you should welcome it, since it will give you a chance to attack a weak group.

For example, in the 4-stone handicap game in *Dia. 8* White has plunged right into the middle of Black's sphere of influence. The space is too wide for Black to expect to kill this stone and Black won't get enough territory by playing at 'a' or 'b', considering all the stones he has invested in this part of the board; White would simply jump out to 'c' in response.

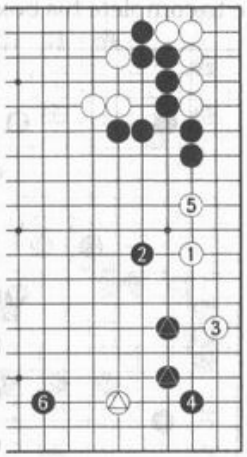
The best way for Black is to use the strength of his stones to force White to live within Black's sphere of influence, confine him to a small area and, in the

process, transfer this influence to another part of the board. The key is to cap White 1 with 2 in *Dia. 9*. White establishes a base on the side with 3 and 5.

Note Black 4 here. This move has two purposes: it gives Black's two marked stones a base in the corner, and it prevents White from advancing too far into the corner from either the right or the left. The result of this sequence is that Black builds up influence facing the left with 2, 4, and his two marked stones. Now he can launch an attack against the marked white stone with 6.



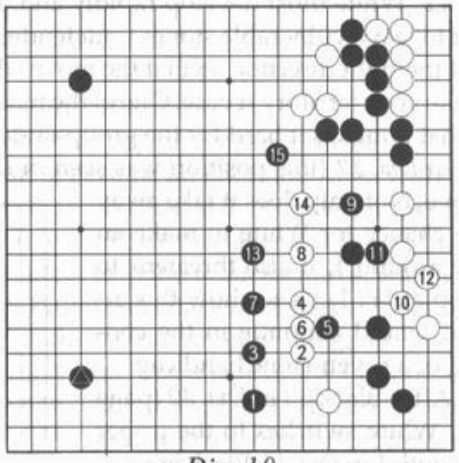
Dia. 8



Dia. 9

In answer to Black 1 in *Dia. 10* (Black 6 in *Dia. 9*), White must run away into the center with 2, since there is no way for him to make eyes at the bottom when the black stone is in place on the 3–3 point. Black chases him with 3 and 7, building a wall facing the left that works beautifully with the marked stone on the left to start building a box shape. (Note the exchange of 5 for 6: this move is necessary for Black to keep all his stones connected.)

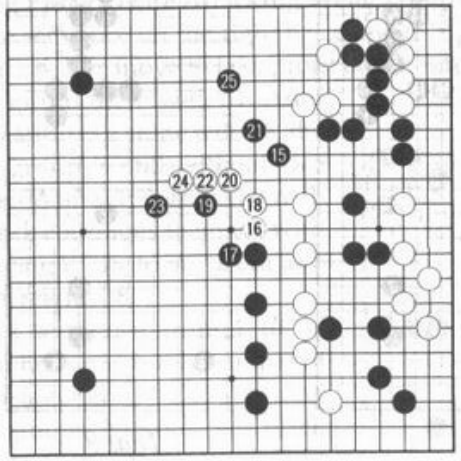
Black 9 threatens to kill the white stones on the right, so White must play 10 and 12 to make two eyes for his group there. After the exchange of 13 for White 14, Black launches a powerful double-attack with 15. This kind of move is a splitting attack and it is well



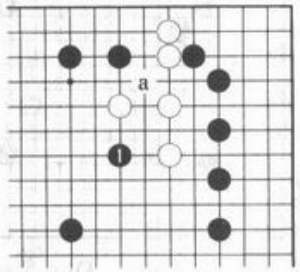
Dia. 10

worth remembering. It splits off the weak white group below from the three white stones at the top, attacking both of them simultaneously; one of those groups must fall.

White must break out into the open with 16 and 18 in *Dia. 11*, but Black keeps up the pressure with the sequence to 23. Finally, Black plays 25 and the three white stones at the top are as good as captured. Moreover, White has almost no territory and his group in the center is still in danger. Finally, Black will probably be able to complete his box shape in the lower left.



Dia. 11

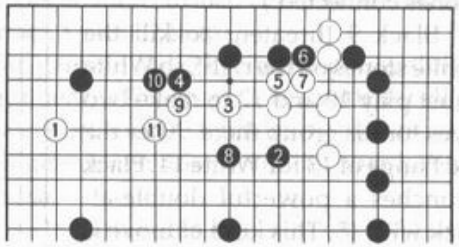


Dia. 12

The best way to secure territory is to do so while attacking a weak group. In a high-handicap game, you should have no trouble finding weak groups to attack. White must develop rapidly and, in doing so, he usually has no choice but to leave vulnerable stones undefended. But you have to attack the group in just the right direction so that the moves that threaten to kill it are the ones that make your territory secure. One of the main requirements for an attacking move is that it makes it hard for the group under attack to get eyes.

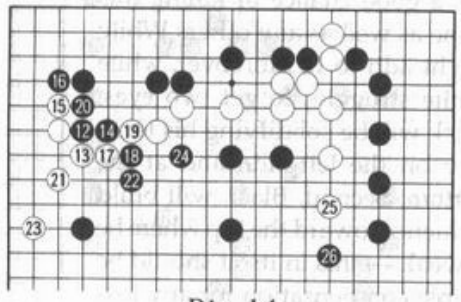
In *Dia. 12* (this position was seen in *Dia. 40* on page 30), Black 1 is such a move. Not only does it take away the chance for White to make an eye around 1, it also threatens to peep at 'a'. Let's see how this attack would continue in the context of a seven-stone handicap.

After Black 10 in *Dia. 40* (page 30), White switches to the upper left with 1 in *Dia. 13*. Black ignores



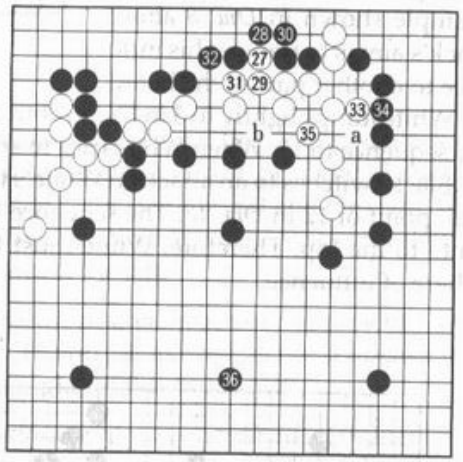
Dia. 13

it and strikes at the vital point of 2. White has to jump to 3, even though this move provokes Black to take territory at the top with 4. White must also defend against the peep at 7, so he plays 5 and 7, but Black attacks again with 8, forcing White to exchange 9 for 10. Black is securing territory, but White isn't getting any himself; he is just running away.



Dia. 14

Next, Black attaches at 12 in *Dia. 14*. This is another splitting attack in which Black leans on one group to build strength for an attack on a second one. White secures his stones on the left with the sequence to 23, but, in the meantime, Black has secured more than 20 points at the top. In addition, Black still has an attack against the white group at the top when he plays 24. Jumping out to 25 doesn't help White to escape, so he has to come back and make two eyes with the sequence to 35 in *Dia. 15* (he gets his second eye at 'a' or 'b'). Black ends in sente and takes a big point at the bottom with 36. His large and secure profit on the right side and in the top left, combined with his dominating influence in the lower half of the board, is more than enough to ensure his victory.

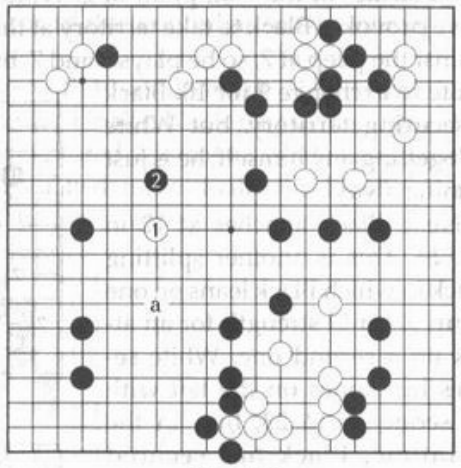


Dia. 15

When giving a handicap, White will often find that his opponent has built up a large box shape that is threatening to become an enormous area with the addition of one more move, after which an invasion will become impossible. Therefore, White will have to make a move to reduce this large area before Black can make it impregnable. When you, as Black, respond to such a move, you must think of the stone played as a vulnerable target and attack it. Here is an example.

The position in *Dia. 16* (next page) is the continuation of the game shown from *Dia. 49* on page 33. Black has built a large box shape at the bottom and White has to do something to cut it down to size, so she plays 1. The first instinct of many players would be to defend at 'a', but such a move would be submissive; it only thinks of defense. Capping the invading white stone with Black 2 is the

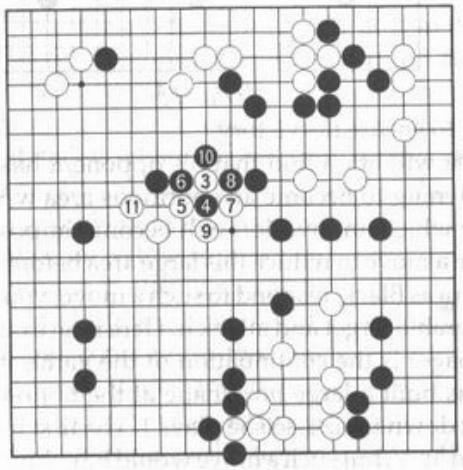
best move. There are two reasons: first, if Black can confine White within his sphere of influence, he has a good chance of killing this stone as well as any others White might add to it; moreover, while White struggles to get two eyes, Black will be solidifying his territory on the left side and at the bottom. Second, Black will build influence toward the top where he is weak — this in itself should be ample compensation for any loss he might suffer below. As in the example shown in *Dia. 8* above, Black's aim is to transfer his influence to another part of the board.



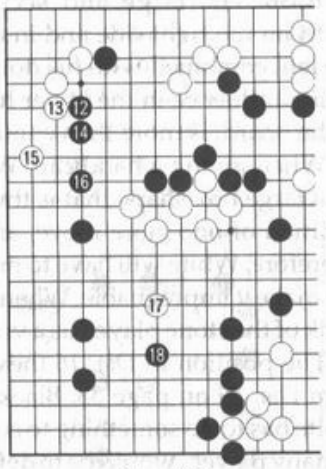
Dia. 16

White jumps lightly to 3 in *Dia. 17*, but Black confines her to the bottom with the sequence to 10. When White tries to sneak out into the open with 11 —

Black switches to an attack on White's two stones at the top by striking at the vital point of 12 in *Dia. 18*. The sequence to 16 follows; there is now no escape route to the top. Therefore, White must try to make two eyes within Black's sphere of influence.

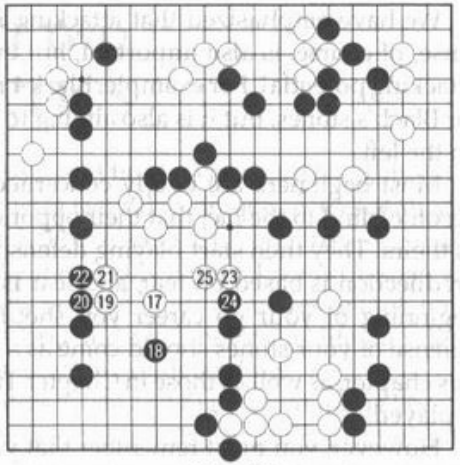


Dia. 17



Dia. 18

White expands the space of her group with 17 to 21 in *Dia. 19* to make two eyes, but, in the process, Black solidifies the territory on the left side with 20 and 22. With 25, White lives in gote and Black is free to start the endgame. We'll come back to this position in Chapter Ten.



Dia. 19

This chapter may have been a bit difficult, but we suggest that you focus not on details, but on the overall flow of the attack in these examples. As you gain experience, come back and reread this chapter focusing on the following principles.

- Make moves that have more than one meaning. For example, Black 4 in *Dia. 9* not only defends the two marked stones, it also provides a base from which to launch an attack on White's stones on the left and the right. Black 1, 3, 7, and 13 in *Dia. 10* are attacking White's weak stones and they are also building black influence toward the left.
- Try to make territory in the process of attacking your opponent's weak groups. Black's moves in *Dias. 13* and *14*, as well as the sequence from Black 18 to 22 in *Dia. 19*, are examples of this technique.
- Try to confine your opponent's stones within your sphere of influence and make him struggle for life there. Even though your initial influence may be neutralized, you will probably be able to transfer this influence to another part of the board as Black does in *Dias. 9* and *10*.
- The best time to take big points is when an attack on your opponent's group, or groups, comes to an end. Black 36 in *Dia. 15* is an example of this tactic. In this example, White is clearly alive and there is no longer any profitable way for Black to attack White's stones at the top or on the left, so he increases his influence at the bottom and waits to see how White will play next.
- Be on the lookout for splitting attacks like those of Black 15 in *Dia. 10* and Black 12 in *Dia. 14*. This is often a good way to capture a big group of your opponent's stones.

We have emphasized that attacking is the best way to make territory. Defense, of course, is also important, but even defensive moves must contain an attacking potential. For example, Black 4 in *Dia. 9* is defensive as it secures a base for Black's stones, but it is also aiming to attack White's stones on the right and on the left.

Most beginners are overly concerned with the safety of their stones and become blind to the fact that their opponent's stones are in just as much danger as theirs. They then start playing defensive moves and slowly fall behind. This predilection is based on fear, and fear is a hard habit to break. From the very beginning of your go career you should think primarily of attack, and the defense of your stones should come as a result of your attack. The examples in this chapter, as well as those in Chapter Two, aim to show you the way this style is played.

However, you must remember that you cannot and must not attack if your own stones are weak. This is why it is so important to build up strong and thick positions in the opening.

In closing this chapter, I would like to recommend two books for your study of the middle game. One is *Attack and Defense* by Ishida Akira and James Davies. This book is a comprehensive survey of middle-game techniques and should be read by every go player who aspires to become an expert player. The other is *Get Strong at Invading* by Richard Bozulich. This one contains 171 problems from which you will learn all the standard invading techniques.

PART TWO
TACTICS

Even though your strategic prowess might be at a very high level, it will all come to naught if you can't back it up with tactical technique. After identifying weak groups, you must be able to attack them effectively; you must also be able to defend your own weak groups. To this end, Chapter Five on tesujis and Chapter Six on life and death will show you the kinds of moves to look for so that you will be able to find tesujis and the vital points in life-and-death situations at a glance whether you are attacking or defending.

The centerpiece of this part is Chapters Seven and Eight on counting liberties and reading out capturing races. These are important basic skills that you need to learn. Many players, even quite strong ones, have a poor grasp of these fundamentals. One reason is that they have never before been clearly and systematically explained in any book in English. Books on tesuji assume you already know the fundamentals and only review them briefly. Books for beginners give a simplified introduction and leave out important details. Here for the first time is a thorough explanation of the principles of counting liberties and applying them to practical situations that are likely to occur in your games. Once you have mastered the material presented here, you may find yourself outfighting stronger players who previously exploited your lack of knowledge.

The reason players miscount liberties is that they don't really understand what constitutes a liberty and what doesn't. For example, when there are vacant points shared by both sides, do these count for both sides or only one side, and in that case which side? Chapter Seven analyzes the six different types of fight, involving no eyes at all, one eye only, and one eye each. It clearly explains what counts as a liberty and what doesn't. Unlike other books that try to cover the subject in half a dozen diagrams, this chapter uses over a hundred. Some of them, not only ones showing the starting position, but also ones showing the end results of different variations, have no moves on them at all, making it easy for you to judge the status. The moves leading to those results are shown in separate diagrams. In Chapter Seven, there are no clever moves to find. The challenge is merely to count liberties. Chapter Eight introduces techniques for gaining liberties for yourself and efficiently stealing your opponent's liberties.

The contents of these two chapters are based on a series of articles by Richard Hunter, published in the *British Go Journal*, Nos. 102–110 from Spring 1996 to Spring 1998. This long time span was sufficient to give readers time to absorb the concepts gradually. The articles were aimed at correcting bad habits and filling in gaps in the knowledge of players from 10-kyu to 1-dan. In this book, Mr. Hunter has adapted the material to target beginners encountering the

concepts for the first time. The coverage is exhaustive, but also exhausting, so don't expect to read through these chapters and grasp everything in one pass. Read them first to get an overall impression, then study a section at a time and take a break before studying the next section. Apply what you learn in your games and come back and reread the chapters. You should see a dramatic improvement and will also find yourself enjoying your games much more. As all go players will testify, winning capturing races and killing enemy groups is is one of the great pleasures of go.

The series in the *British Go Journal* is still continuing. Mr. Hunter next plans to present examples from professional games. In games between beginners, one often sees capturing races that result in a large group of stones dying. This seldom happens in professional games. Why not? Because beginners play moves to discover what will happen. Professionals are very good at counting liberties and reading capturing races. They know what the result will be, so they don't play sequences that end in failure. In professional game records, there are very few capturing races. But that doesn't mean capturing races are unimportant. On the contrary, they are crucial to almost every game, but they lurk unseen in the unplayed variations. A game record is like the tip of an iceberg. The players consider far more sequences than actually appear on the board. The source of instructive material about capturing races in professional games is the commentary. Most of the examples will be taken from TV game commentaries given by professionals.

If you are interested in subscribing to the *British Go Journal*, the necessary information is given at the end of this book.

Chapter Nine covers another important topic, rarely found in English books on go; that is good and bad shape. When your stones have good shape, they will be resilient against attack and will provide strong positions which you can use to attack your opponent's weak stones.

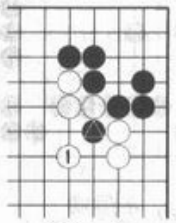
Chapter Five
Tesujis

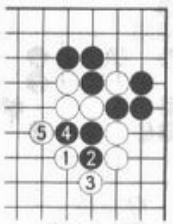
In the course of a game, you might find yourself at a disadvantage in a local position. Sometimes, if you look hard, you may be able to find a move that can, as if by magic, turn the situation around to your advantage. Such a move is called a tesuji.

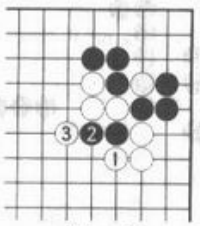
Nets

Along with ladders that you've learned in a beginner's book, nets are a basic capturing technique. White 1 in *Dia. 1* is the simplest example of this tesuji. The marked black stone is as good as captured. If Black tries to break out with 2 and 4 in *Dia. 2*, White captures him with 3 and 5.

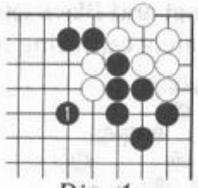
White might also be able to capture Black with a ladder starting with 1 and 3 in *Dia. 3*, but capturing with a net is better, if you have that option. Ladders are affected by conditions that develop in other parts of the board, but nets capture simply and cleanly in a local context.

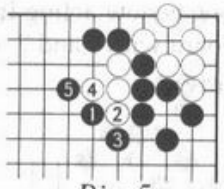

Dia. 1

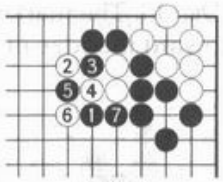

Dia. 2


Dia. 3

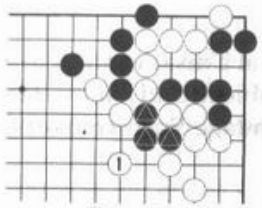
Black 1 in *Dia. 4* is another example of a net. Although White has three liberties, there is no way for him to break out. *Dias. 5* and *6* show two attempts by White to escape; both end in failure.

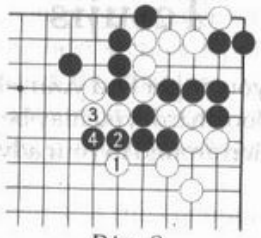

Dia. 4

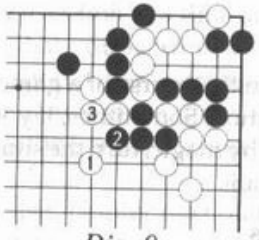

Dia. 5


Dia. 6

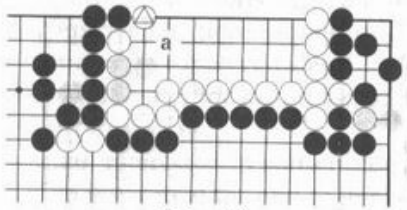
White 1 in *Dia. 7* looks like a net, but it fails to capture the three marked stones. Black easily escapes with an atari at 2 in *Dia. 8*. However, jumping a bit farther away to 1 in *Dia. 9* traps the black stones. If Black ataris with 2, White connects with 3 and the situation is the same as *Dia. 4*.

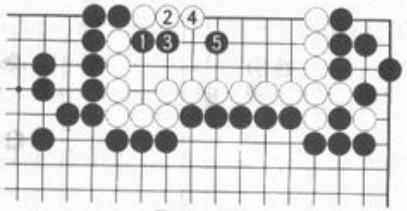

Dia. 7


Dia. 8


Dia. 9

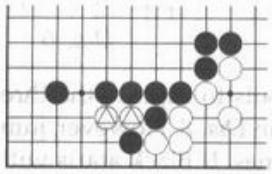
Nets can also be used to capture stones at the edge. In *Dia. 10*, White has omitted an important defensive move at 'a'. Because of this omission, the marked white stone can be captured. Black starts with two ataris at 1 and 3 in *Dia. 11*, then casts his net with 5. The reader should verify for himself that there is no escape for the three white stones.

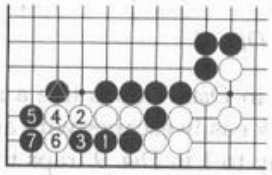

Dia. 10


Dia. 11

Loose Ladders

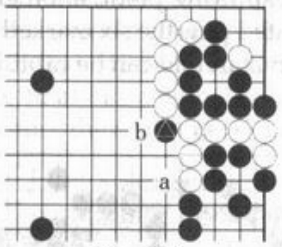
Loose ladders are similar to regular ladders except that not all moves are atari. *Dia. 12* shows a basic type that often occurs at the edge. Black's task is to capture the two marked stones. Black starts out by playing 1 and 3 on the second line in *Dia. 13*. The marked stone is now acting like a net and Black can force White toward the edge of the board with 5 and 7, ultimately capturing him.

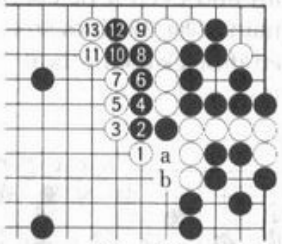

Dia. 12


Dia. 13

Net-like moves are often used to set up loose ladders. In *Dia. 14*, for example, Black has just played the marked stone and threatens to capture the seven white stones on the right by playing at 'a'. There is no ladder at 'b' for White, so other means must be found.

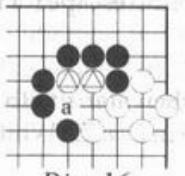
Jumping to 1 in *Dia. 15* starts a loose ladder. If Black tries to escape with 2, White presses with 3 and drives him to the edge of the board with the sequence to 13. Throughout this sequence, Black cannot push through at 'a' because White 'b' would be atari, turning it into a regular ladder.

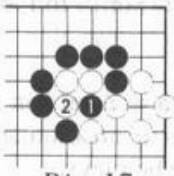

Dia. 14

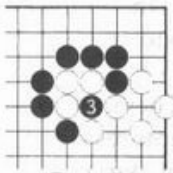

Dia. 15

Snapbacks

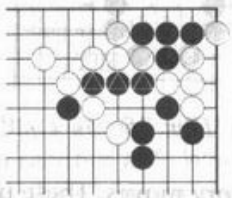
Many of the more spectacular tesujis involve sacrifices. The snapback is the most basic. *Dia. 16* shows the pattern: Black to capture the two marked stones. A simple atari at 'a' won't work.

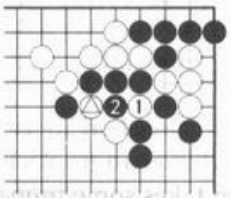

Dia. 16

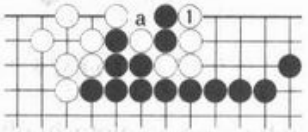

Dia. 17


Dia. 18

Black first sacrifices a stone with 1 in *Dia. 17*. If White captures with 2, he puts himself into atari, and Black will capture three stones with 3 in *Dia. 18*.


Dia. 19


Dia. 20


Dia. 21

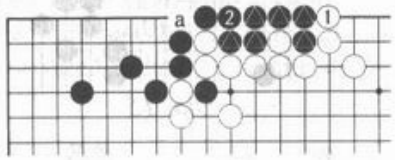
Dia. 19 is another example of a snapback. It's White's move. The three marked stones are pivotal: White must capture them.

White 1 in *Dia. 20* sets up the snapback. Even though Black ataris the marked stone with 2, it is of no consequence because White plays back at 3 with 1, capturing four black stones.

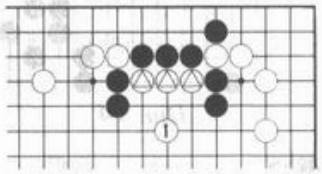
Dia. 21 is another example of a snapback at the edge of the board. If White plays 1, Black cannot capture at 'a' without putting himself into atari.

Oiotoshi (Connect and Die)

The Japanese term 'oiotoshi' refers to a situation in which one side's stones are in atari and even if he connects at the capturing point, another capturing point remains. *Dia. 22* gives an example. White 1 puts the six marked stones into atari. Even if Black connects at 2, he is still in atari and can be captured at 'a'.



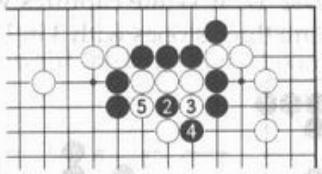
Dia. 22



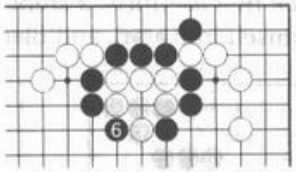
Dia. 23

The classic example in which oiotoshi arises is the position in *Dia. 23*. This position, involving the seven black stones and the three marked white ones, is known as the 'crane's nest'. White jumps to 1, but there is no escape for the three marked stones.

Black begins by throwing in a stone at 2 in *Dia. 24*, then ataris with 4. When White captures with 5, Black sets up an 'oiotoshi' with 6 in *Dia. 25*. White cannot get out of atari no matter where he plays.

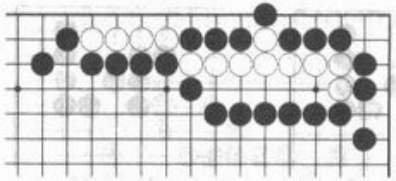


Dia. 24

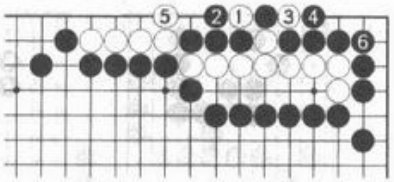


Dia. 25

Setting up an oiotoshi often takes some preparatory moves. These usually involve sacrifices which create a shortage of liberties. This whole process, the sacrifice and the final 'coup de grace', is usually called 'oiotoshi', as shown in the sequence from 1 to 7 in the following three diagrams.

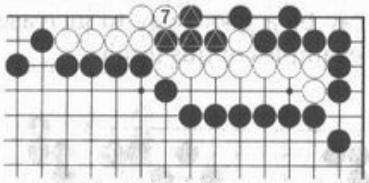


Dia. 26

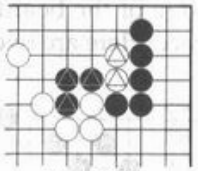


Dia. 27

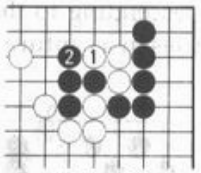
In *Dia. 26*, White's stones are in danger of being captured, but White can save them with the oiotoshi tesuji. White begins by sacrificing two stones with 1 and 3 in *Dia. 27*, then descending to 5. Having reduced Black's liberties, White delivers the final blow with 7 in *Dia. 28*; the four marked stones can't avoid capture because they can't get out of atari.



Dia. 28



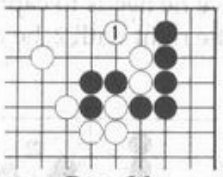
Dia. 29



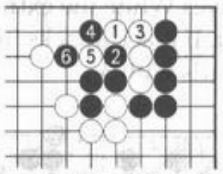
Dia. 30

Diagonal Moves

In *Dia. 29* the marked black and white stones are in a capturing race. Black has three liberties, but White has only two. It is White's turn to play. Ordinary moves like White 1 in *Dia. 30* fail. The tesuji is the diagonal move of White 1 in *Dia. 31*. It is the only move that can turn this situation around.



Dia. 31



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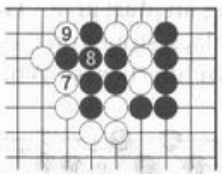
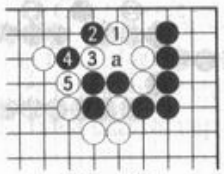


Dia. 33

If Black ataris with 2 in *Dia. 32* he loses a liberty. Black 4 is then answered with a sacrifice at 5. When Black captures with 6 White ataris with 7 and 9 in *Dia. 33*; there is no escape for Black.

Playing Black 2 in *Dia. 34* instead of 'a' still lets White play on the vital point of 3. Black 4 is the only possible response, but White sets up a snapback with 5. (Black can't play at 'a' without putting himself into atari.)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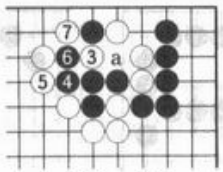
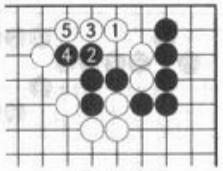

Dia. 35

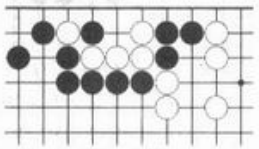

Dia. 36

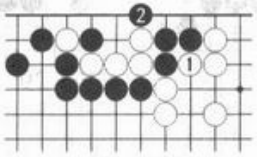
Trying to break out with 4 and 6 in *Dia. 35* fails. White 7 sets up another snapback. (It's suicidal for Black to capture at 'a'.)

White 3 in *Dia. 35* seems to be the vital point, so what happens if Black plays on this point with 2 in *Dia. 36*? White will counter with 3 and there is no way for Black to escape.

Descending to the Edge of the Board

Descending to the edge of the board can be a good way to increase your liberties in a capturing race. Here are two examples of this tesuji.


Dia. 37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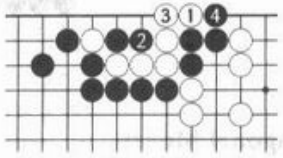
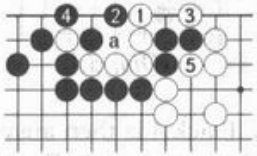
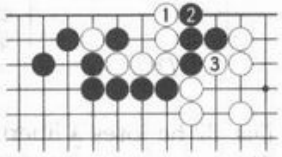
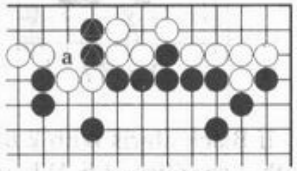

Dia. 39

In the capturing race in *Dia. 37*, White seems to be one move behind. Ordinary moves such as 1 in *Dia. 38* or *Dia. 39* fail. The only way for White to win this race is to descend to the edge of the board with 1 in *Dia. 40*. If Black attacks from the left with 2, he must first capture a white stone with 4 before playing an atari at 'a'. This gives White the extra move he needs to capture the three black stones on the right. If Black attacks from the right with 2, he reduces his own liberties, so White ataris with 3.

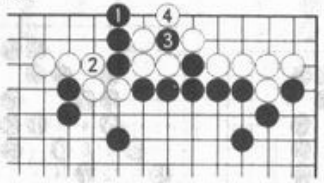

Dia. 40

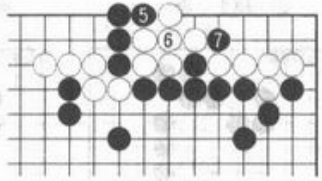

Dia. 41


Dia. 42

In *Dia. 42*, the marked black stones are in danger. Black would like to play at 'a' to cut off and later capture two white stones, but if he did, White would immediately put him in atari. The only way Black can win this race is to descend

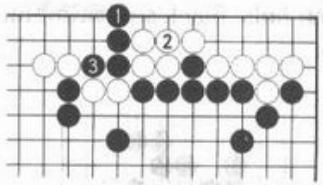
to 1 in *Dia. 43*. If White connects at 2, Black sacrifices a stone with 3. After White captures with 4, he finds himself short of liberties when Black ataris with 5 and 7 in *Dia. 44*.

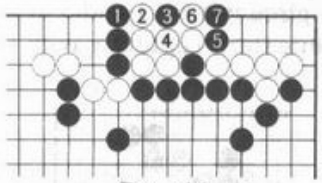

Dia. 43


Dia. 44

On the other hand, if White connects at 2 in *Dia. 45*, Black gains an extra liberty, so he can play at 3. It is now a simple capturing race, with Black having three liberties to White's two.

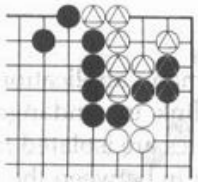
Some beginners might wonder why White can't play at 2 in *Dia. 46* in order to keep Black's liberties restricted to three. The reason is that Black will give a series of ataris with 3 to 7 and capture White's stones. This is a useful tesuji and well worth remembering.

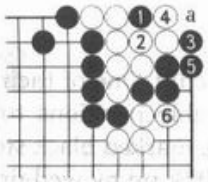

Dia. 45

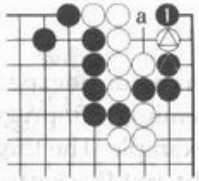

Dia. 46

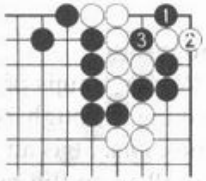
Clamps

A situation similar to the one in *Dia. 46* sometimes occurs in the corner. Such a position is shown in *Dia. 47*, where the marked black and white stones are locked in a capturing race. If Black thinks that he can use the same technique as in *Dia. 46* by giving atari with 1 in *Dia. 48*, he will be in for a rude shock when White plays 6: he is unable to atari at 'a' because he is short of liberties.


Dia. 47

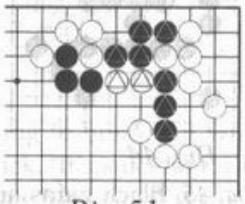

Dia. 48

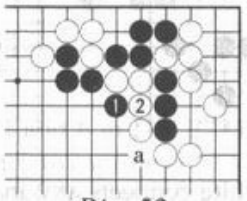

Dia. 49

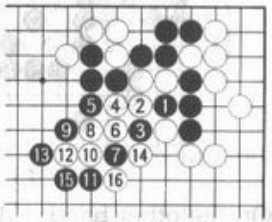

Dia. 50

In this case, another kind of tesuji is required: the clamp of Black 1 in *Dia. 49*. (The marked black stone and 1 grip the marked white stone like a clamp.) White

cannot play at 'a' without putting himself into atari. But if he descends to 2 in *Dia. 50*, Black sets up a snapback by throwing in a stone at 3.

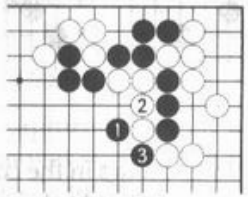

Dia. 51

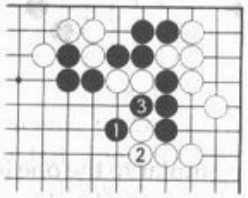

Dia. 52


Dia. 53

Dia. 51 is another position where the clamp tesuji is applicable. The marked black stones are in danger of being captured and Black's only hope of rescuing all of them is to capture the two marked white stones.

The atari of Black 1 in *Dia. 52* is crude. White connects at 2 and the cut at 'a' fails to capture White's stones. Attempting to catch the two white stones in a ladder beginning with 1 and 3 in *Dia. 53* also fails. Black's position falls apart when White starts capturing with 14 and 16.

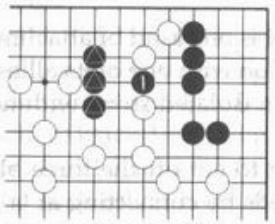

Dia. 54

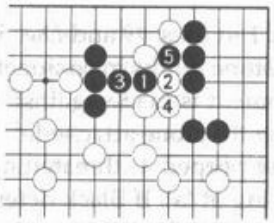

Dia. 55

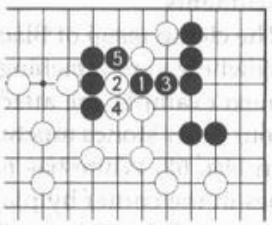
The clamp of Black 1 in *Dia. 54* is the only move that will succeed in capturing the pivotal white stones. If White connects at 2, Black ataris at 3 and catches four white stones. If White connects at 2 in *Dia. 55*, Black 3 catches the two pivotal white stones.

Wedges

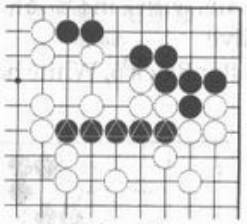
Wedge tesujis often occur unexpectedly. One of their many applications is breaking through seemingly impregnable positions to link up endangered stones. *Dia. 56* is an example. The three marked black stones are isolated from their allies on the right, but Black can link up by wedging in between the two marked white stones with 1. If White ataris with 2 in *Dia. 57*, Black connects with 3. He is now threatening to cut at the points 4 and 5. If White connects at 4, Black will cut at 5, catching the two white stones at the top.

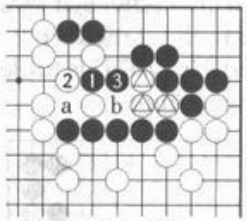

Dia. 56

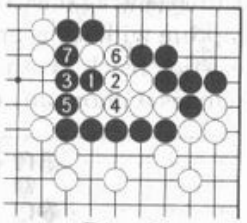

Dia. 57


Dia. 58

If White ataris from the other side with 2 in *Dia. 58*, Black connects at 3, this time threatening to cut at 4 or 5. White connects at 4 and Black cuts at 5, again catching the two white stones at the top.

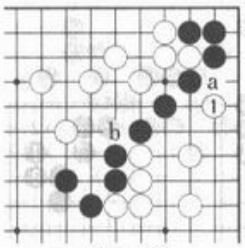

Dia. 59

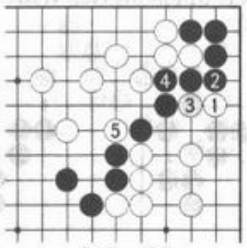

Dia. 60

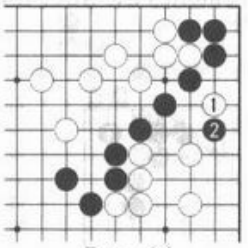

Dia. 61

In *Dia. 59*, Black can use a wedge tesuji to rescue his five marked stones. The move is Black 1 in *Dia. 60*. If White ataris with 2, Black plays 3 and the three marked white stones will be captured. That is, if White 'a', Black 'b'; but if White 'b', Black will capture five white stones by playing at 'a'.

If White ataris from the other side with 2 in *Dia. 61*, no matter how hard White struggles, his stones will be captured as the sequence to Black 7 shows. You should verify for yourself that once Black plays 1, there is no way that White can capture Black's stones. You should also confirm that no move other than 1 will save Black's five endangered stones in *Dia. 59*.


Dia. 62


Dia. 63


Dia. 64

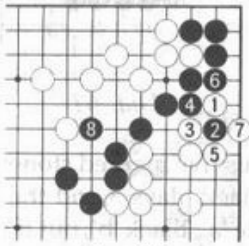
Attachments

The clamp tesuji of Black 1 in *Dias. 49* and *Dia. 54* is one kind of attachment tesuji where your attaching stone works in conjunction with one of its allies. In the next example, the attachment is made against an isolated stone with none of your other stones touching the stone attached.

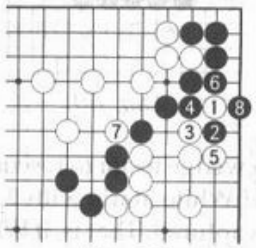
In *Dia. 62*, White has just peeped 1, threatening to cut off the three black stones in the corner by playing at 'a'. If Black defends by connecting at 'a', he still has a cutting point at 'b'. If Black plays 2 in *Dia. 63*, White exchanges 3 for 4, then cuts with 5, and the black stones in the corner don't have enough room to make two eyes.

The only move that enables Black to rescue all his stones is the attachment of Black 2 in *Dia. 64*. White's best response is to play 3 and 5 in *Dia. 65*, but then Black can connect at 6 in sente. White captures with 7, giving Black the opportunity to defend against a cut with 8. After 6, if White cuts with 7 in *Dia. 66*, Black will capture with 8; his group in the corner is now alive.

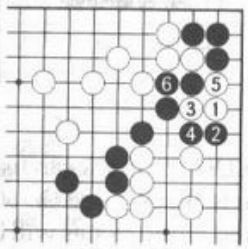
Resisting Black 2 with 3 and 5 in *Dia. 67* is futile. After Black 6, White has lost three stones without any compensation.



Dia. 65

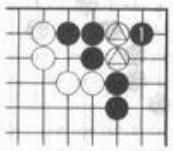


Dia. 66

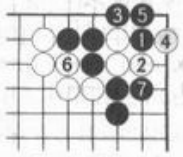


Dia. 67

Another kind of attachment is where you attach at the 'belly' of your opponent's group. Black 1 in *Dia. 68* is an example. This is the only move that will capture the two marked stones. Resistance with 2 and 4 in either *Dia. 69* or *Dia. 70* is futile; White is always one move behind in the capturing race. However, if Black plays 1 in *Dia. 71*, White plays 2, forcing Black to connect with 3, and catches the three marked black stones with 4.



Dia. 68



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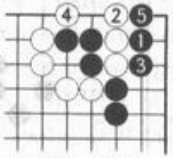
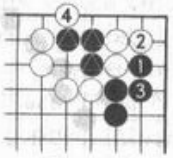


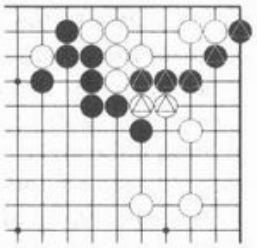
Dia. 70



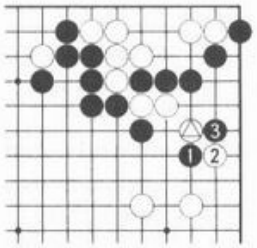
Dia. 71

Crosscuts

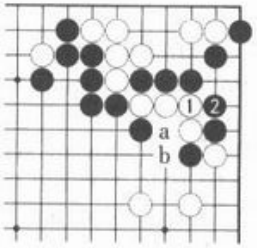
In this final example, the marked black stones in *Dia. 72* are isolated from their allies. Black has to capture some white stones if he is going to rescue them. Attaching at Black 1 in *Dia. 73* is a good move. If White hanes at 2, then the crosscut of Black 3 is a tesuji. This move is called a crosscut because the two black stones, 1 and 3, and the two white stones, 2 and the marked one, are mutually cutting each other. From this position, it is impossible for White to avoid the capture of his two marked stones in *Dia. 72*. If White plays 1 in *Dia. 74*, Black 2 catches four white stones. If White 'a' instead of 1, Black 'b' again catches White.



Dia. 72



Dia. 73

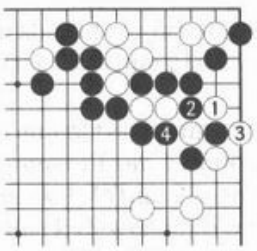


Dia. 74

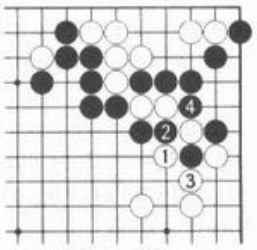
If White ataris with 1 in *Dia. 75*, Black captures the two white stones with 2 and 4. (Note that White cannot play 3 at 4 because he would still be in atari.) If White ataris the other black stone with 1 in *Dia. 76*, Black 2 and 4 capture the two white stones.

If White avoids the crosscut by descending to 2 in *Dia. 77*, he will lose all his stones in a capturing race, as the sequence to Black 9 shows.

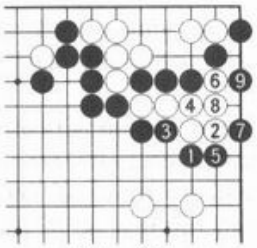
This chapter is just a brief survey of some of the simplest tesujis that arise in games. There are many other kinds, and some of them will be presented in later chapters.



Dia. 75



Dia. 76



Dia. 77

To become a strong player, it is essential that you be able to spot tesujis at a glance when they occur in your games. The best way to learn to do this is to familiarize yourself with the many varieties of tesuji that exist and to solve tesuji problems. A good place to begin is with *Get Strong at Tesuji* by Richard Bozulich. The 535 problems in this book ranging from easy to intermediate will endlessly drill you in every type of tesuji so that when they occur in your games you will see them instantly.

Another thorough and excellent introduction this topic is *Tesuji*, by James Davies. It contains a survey of the main types of tesujis that you are likely to come across in your games.

Chapter Six
Life and Death

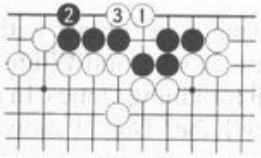
In the course of a game, it stones often become isolated from their allies and have to form two eyes on their own to live. To become strong, you have to develop the skill of killing your opponent's stones and saving your own.

For killing groups, there are three basic kinds of tesujis that occur over and over again: placement moves, hanes, and throw-ins. Understanding these three tesujis will give you the basic technique you need when life-and-death positions arise in your games.

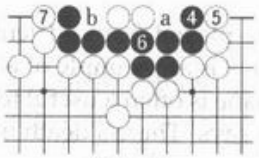
Placement Moves

The placement tesuji is the fundamental technique used in killing groups. This move strikes at the vital point of the opponent's shape with the aim of creating a dead eye space. *Dia. 1* shows a typical application of this technique. White 1 is the vital point of Black's formation. Black 2 is answered by White 3. *Dia. 2* shows a possible continuation. After 7, White can atari at 'a' or 'b' (if called upon to prove Black is dead) and if Black captures, he is left with only a three-point eye space. White can then play back at the central point, reducing it to one eye. This technique is explained in more detail in the next chapter, on page 89.

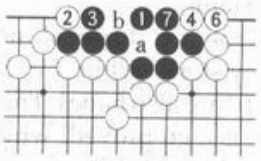
On the other hand, if it is Black's turn, he will play at 1 in *Dia. 3* and it will be impossible for White to prevent Black's group from forming two eyes. If White 2, Black plays 3 and he has an eye at 'a' and another at 'b'. Of course, the eye at 'a' will have to be defended at 7 when White later connects at 6.



Dia. 1



Dia. 2

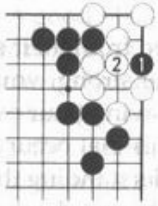


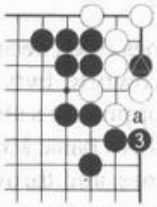
Dia. 3
5: elsewhere

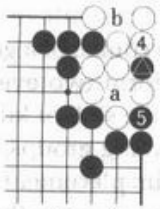
You should confirm for yourself that White 1 in *Dia. 1* is the only move that kills Black. If White plays 1 at either 2 or 4 in *Dia. 3*, Black will live by playing at 1.

Placement tesujis are often used in combination with other moves to prevent the opponent from forming two real eyes. In *Dia. 4* (next page), for example, after Black 1, White 2 seems to give White the two eyes he needs for life. But when Black descends to 3 in *Dia. 5*, White cannot play at 'a' without putting himself into atari because of the presence of the marked black stone. If White

captures with 4 in *Dia. 6*, Black ataris at 5. White now has only one eye (at the point where the marked stone was) and two false eyes (at 'a' and 'b'), so his group in the corner is dead.

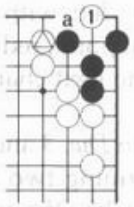

Dia. 4

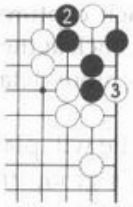

Dia. 5

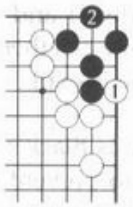

Dia. 6

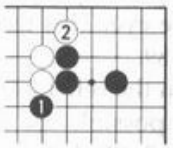
The placement move of White 1 in *Dia. 7* threatens to link up to the marked white stone on the outside by playing at 'a'. If Black blocks with 2 in *Dia. 8*, White 3 leaves him with only one eye in the corner.

The order of moves is important in this example. If White first plays at 1 in *Dia. 9*, Black will play at 2, getting two eyes in the corner (at the 1–1 point and the 2–2 point).


Dia. 7

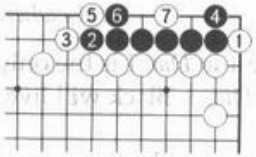

Dia. 8

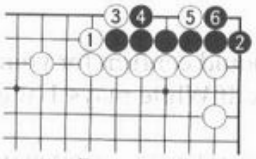

Dia. 9


Dia. 10

The Hane

Hane is a diagonal move played from a friendly stone in contact with an enemy stone. White 1 in *Dia. 9* is an example of a hane. Black 1 and White 2 in *Dia. 10* are also hanes. The hane is often a useful tesuji for killing stones. In fact, there is a go proverb which says 'There's death in the hane.' *Dia. 11* shows an example.

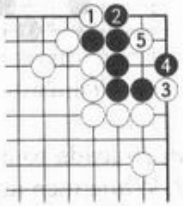

Dia. 11

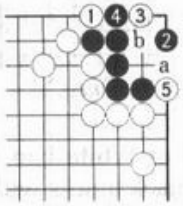

Dia. 12

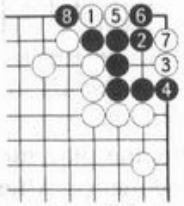
The hane of White 1 in *Dia. 11* kills the black group. Black tries to create eye space with 2 and 4, but White plays another hane with 5, so he doesn't get enough room. If Black 6, White makes a placement at 7 and Black is dead.

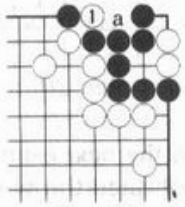
Turning at White 1 in *Dia. 12* fails to kill the black group. Black descends to 2 and, after the exchange of 3 for 4, Black has ample space to form two eyes. If White plays 5 at 6, Black answers at 5. Either way, Black gets two eyes.

When you use a hane to kill a group, you usually have to follow it up with a placement move like 7 in *Dia. 11*. Another illustration of this is given in *Dia. 13*. White plays two successive hanes with 1 and 3, reducing Black to a 5-point eye space. White next hits the vital point of this eye space with a placement move at 5. Black has no way to live.


Dia. 13


Dia. 14


Dia. 15


Dia. 16

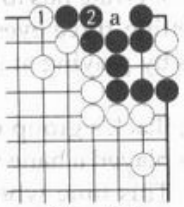
Black has no counter to the hane of White 1. If he answers with 2 in *Dia 14*, White makes a placement with 3. Black 4 prevents a link-up, but White plays another hane with 5. Now Black can make only one eye. If he ataris at 'a', expecting to get two eyes with 'b', White doesn't connect but plays at 'b' himself. Capturing the stone at 5 only gives Black a false eye.

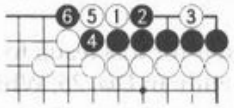
If Black responds with 2 in *Dia. 15*, the placement move of 3, followed by 5 and 7, restricts the black group to a dead three-point eye space.

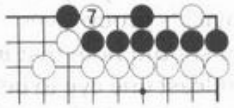
What happens if Black captures two stones at 8? That brings us to the next tesuji, the throw-in.

The Throw-in

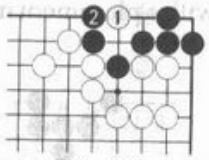
White 1 in *Dia. 16* is an example of a throw-in tesuji. This tesuji is useful in creating false eyes. Because of this move the point 'a' can never become an eye. Playing atari from the outside with White 1 in *Dia. 17* induces Black to play 2, the move he wants to play. Black now has an eye at 'a', as well as an eye space on the right.

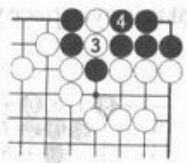

Dia. 17

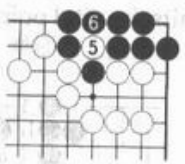

Dia. 18

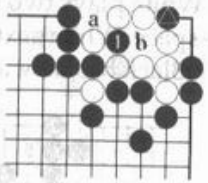

Dia. 19

White 1 in *Dia. 18* leads to a throw-in tesuji. If Black 2, White makes a placement at 3. Black next plays 4 and White sacrifices two stones with 5; after Black captures with 6, White plays a throw-in at 7 in *Dia. 19*.


Dia. 20

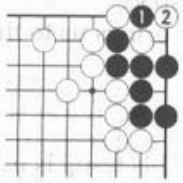

Dia. 21

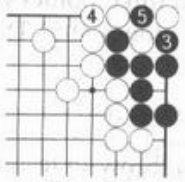

Dia. 22

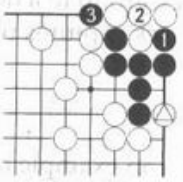

Dia. 23

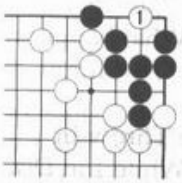
In the next example, the placement of White 1 in *Dia. 20* leads to a more complicated throw-in sequence. After Black blocks with 2, White increases the sacrifice to two stones with 3 in *Dia. 21*. Black captures with 4, but then White throws in a stone at 5 in *Dia. 22*. The point 5 is now a false eye, so Black is dead.

In *Dia. 23*, by throwing in a stone at 1, Black kills the white group in the corner. Because of the presence of the marked black stone, White cannot play at 'a' without putting himself into atari. But if he captures at 'b', Black will play 'a', creating a false eye at the point 1.


Dia. 24


Dia. 25


Dia. 26


Dia. 27

Throw-in moves can often be used to save your groups by aiding in the creation of an extra eye. Black 1 in *Dia. 24* is such a move. After White captures at 2, Black ataris two stones in the corner with 3 in *Dia. 25*. White has to connect at 4, after which Black captures two stones with 5, getting three eyes for his group. If White plays 4 at 5, Black captures four stones by playing at 4. Either way, Black's group lives.

You should note that in order for this tesuji to work, Black's group needs to have at least one eye to begin with. In *Dia. 26*, White has played a hane with the marked stone, depriving Black of an eye on the side. This time when Black captures with 3, White kills Black with a placement move at 1 in *Dia. 27*.

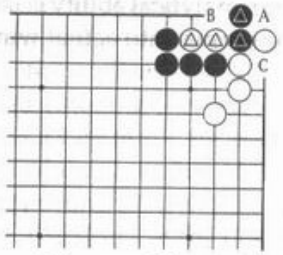
Life-and-death positions arise in almost every game. Even if they are not actually played out, you muse analyze their outcomes when planning your moves. Therefore, it is important to develop skill in killing your opponent's groups and finding moves that make life for your own. Solving life-and-death problems is the best way to develop this skill. The place to start is with the four-volume series *Graded Go Problems for Beginners*, especially the third and fourth volumes. Concurrently, you should also study *Life and Death* by James Davies, which is an systematic survey of the basic life-and-death shapes. Finally, there is *Get Strong at Life and Death*. It contains an excellent selection of 230 problems ranging from easy to difficult, but its unique attraction is the large section on life-and-death positions which arise from josekis.

In conclusion, mastery of the methods of killing and saving groups, as well as mastery of tesujis, will give your go technique great depth. Your opening and middle game may be strategically sound, but if your analytical ability is lacking, you will not be able to turn your strategically won games into actual wins.

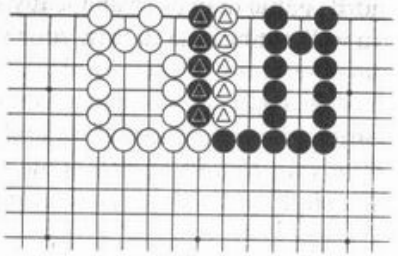
Chapter Seven
Counting Liberties

Reading out capturing races is easy. It's usually just a matter of comparing two single-digit numbers. If you study the fundamentals presented here, you should be able to read out even the most complicated fights.

First, we're going to focus on counting to see who is winning a fight. This does not involve finding any clever moves or deciding where to play.



Reference Diagram



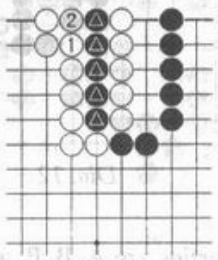
Dia. 1

What Are Liberties?

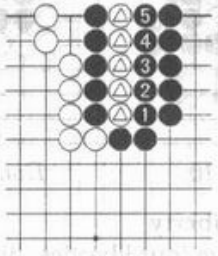
The simple definition of liberties, given in introductory books such as *Go: A Complete Introduction to the Game* by Cho Chikun, is the number of vacant points on a group. For example, in the *Reference Diagram*, the marked white group has two liberties. This simple definition is fine to begin with, but here we extend it to make it more useful for counting in slightly more complicated positions. How many liberties do the marked black stones have? The simple answer is two, but then we have to consider that White cannot actually play on either of them. If White plays at either A or B, he puts himself in atari and Black will capture him. First, he must play at C. Rather than say 'Black has two liberties, but White must make an approach move at C', let's simply redefine the number of liberties as the number of moves it takes to capture the stones. When reading out the status of a fight we simply compare liberty counts. If they are equal, the fight is unsettled and whoever plays first stands to gain something. If they are not equal, the fight is settled. In the *Reference Diagram*, Black has three liberties to White's two, so the fight is settled. Even if White plays first, Black wins the fight. While this change in definition may not seem very significant now, it will make things much easier later on.

Type 1 Fights: Simple Fights

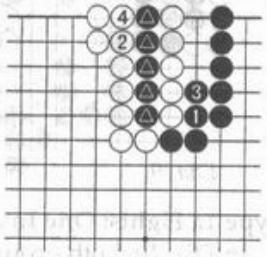
Dia. 1 shows a position with two white groups and two black groups. The groups on the outside are clearly alive, but the groups on the inside (the marked stones) are not. Neither side has two eyes, neither group can escape, and neither group can increase its liberty count. It's a fight to the death. Who will live and who will die? The answer is simple.



Dia. 2

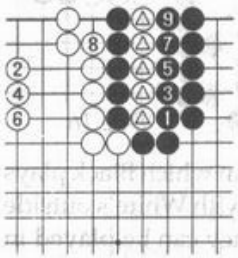


Dia. 3

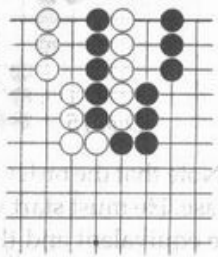


Dia. 4

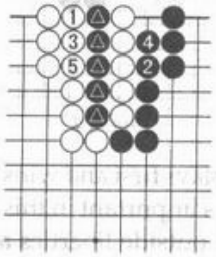
Hereafter, we simplify the outside groups and focus on the fight. As *Dia. 2* shows, it takes White two moves to capture Black. And as *Dia. 3* shows, it takes Black five moves to capture White. Thus we can say that the black group has two liberties and the white group has five. In practice, Black and White play alternately. White has more liberties, so he is likely to win. Even if Black plays first, White can capture the black stones, as shown in *Dia. 4*. This is the basic principle of reading fights — comparing the number of liberties on each side. Note that we assume both players try to win. You can't expect your opponent to let you get several moves in a row, as happens in *Dia. 5*.



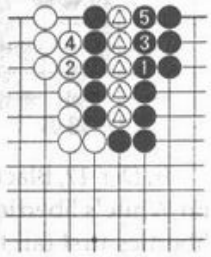
Dia. 5



Dia. 6



Dia. 7

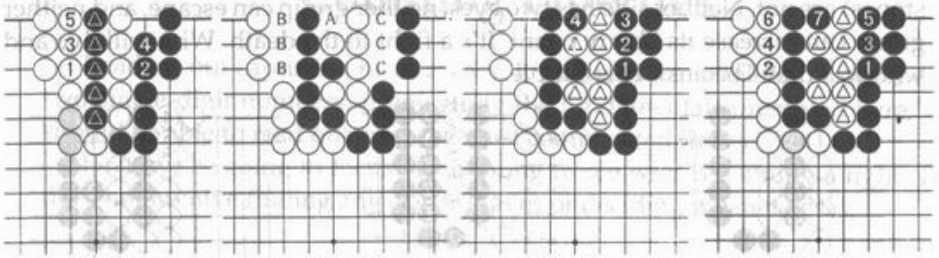


Dia. 8

Five against two is a very unfair fight. The position is settled. It doesn't matter who plays first and it's pretty obvious who will win. In most practical cases, we want to compare two numbers that are equal or nearly equal.

In *Dia. 6*, Black and White each have the same number of liberties. If White plays first, he wins, as shown in *Dia. 7*. If Black plays first, he wins, as shown in *Dia. 8*. Note that all these liberties are equivalent; it doesn't matter which order

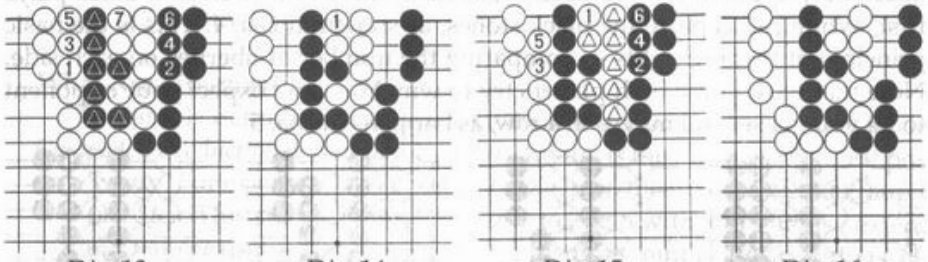
you play them in, as *Dia. 9* shows. It's only the number of liberties that is important. In a simple fight, if the number of liberties is equal, the position is unsettled: whoever plays first, wins.



Dia. 9 *Dia. 10* *Dia. 11* *Dia. 12*

Type 1a Fights: One Inside Liberty

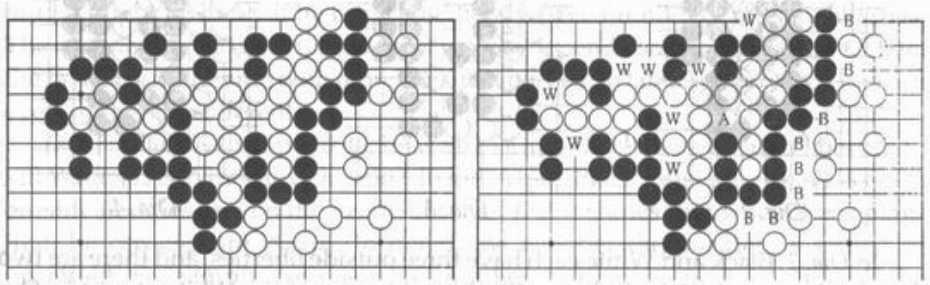
In *Dia. 10*, both groups have four liberties. Black's liberties are A, B, B, and B. White's are A, C, C, and C. As *Dia. 11* shows, it takes Black four moves to capture the white stones. (And, similarly, it takes White four moves to capture the black stones.) However, in *Dia. 10*, note that A is a liberty for both the black and white groups. The points marked B belong exclusively to Black and the points marked C belong exclusively to White, but the inside liberty at A is shared by both groups.



Dia. 13 *Dia. 14* *Dia. 15* *Dia. 16*

In *Dia. 12*, Black plays first and wins. Note that the order in which Black plays on White's liberties is important in this case. He must start with White's outside liberties first (all the outside liberties are equivalent and they can be played in any order) and only fill the inside liberty last, since this also reduces his own liberties. Likewise, if White plays first, he wins as shown in *Dia. 13*. What happens if White starts by playing on the inside liberty? As *Dia. 14* shows, after White 1, both sides have three liberties, but now it's Black's turn. Playing on the inside liberty reduces White's own liberty count as well as reducing Black's, so it's equivalent to giving Black an extra move. Even though White plays first, he loses, as is shown in *Dia. 15*. You do have to play the inside liberty to capture the stones, but you must play it last when it's too late to count against you.

In *Dia. 16*, Black has an extra outside liberty. The count is: Black (4 outside + 1 inside) = 5; White (3 outside + 1 inside) = 4. Even if White plays first, Black can win. And if it's Black's turn, he can play elsewhere and still win. The position is settled: White is dead.



Dia. 17 *Dia. 18*

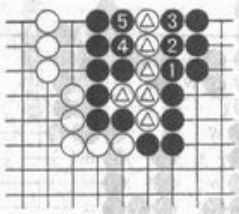
Dia. 17 shows a more complicated fight that might easily occur in a real game. This is no more difficult to count if you understand the principles. Some people like to count the sequence of moves: Black here, White there, Black here, White there . . . We cannot recommend this method. It's too easy to skip a liberty or count the same liberty twice if you are switching backwards and forwards from one side of the board to the other. Instead, count the liberties around the edge of each group. In *Dia. 18*, count the points labeled W: 1, 2, 3 . . . 8. Add one for the inside liberty at A to make a total of 9. Count the B's: 1, 2 . . . 8 plus one A equals 9. Aha: 9 to 9. The position is unsettled. That's not hard is it?

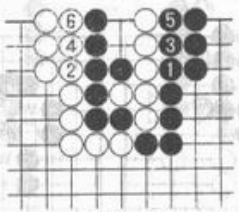
Reference Diagram *Dia. 1*

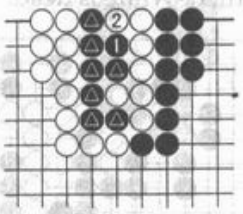
Type 2 Fights: Two or More Inside Liberties

The *Reference Diagram* shows an unsettled position. Black and White each have four liberties. Whoever plays first, wins. When you consider groups with various numbers of inside liberties, the sequence: 0, 1, 2, 3, 4, . . . is not a smooth progression. There is a yawning chasm between 1 and 2. On one side are 0 and 1, while on the other side are 2, 3, and above. It's like ice warming up degree by degree towards its melting point. The smooth progress is suddenly interrupted

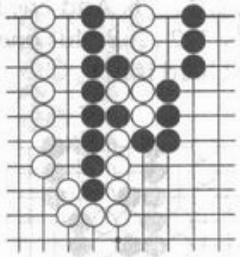
by a phase change as the ice turns into water, which has completely different properties from ice. A fight where there are two or more inside liberties is completely different from one with one or zero. Let's look at some examples.

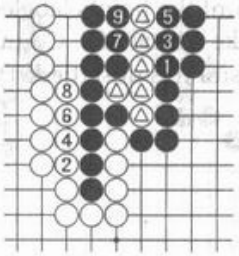

Dia. 2

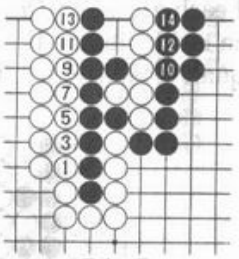

Dia. 3


Dia. 4

In *Dia. 1*, Black and White each have three outside liberties, and there are two inside liberties. As *Dia. 2* shows, Black could capture the White stones in five moves. But that's not going to happen in a real game. White will resist. When Black plays 1-3-5 in *Dia. 3*, White plays 2–4–6. The result is a standoff, called seki. If Black next plays 1 in *Dia. 4* to put White in atari, he puts himself in atari and White captures him. Seki is a position where neither side wants to continue playing because it would be suicidal. In Type 1 fights, the outcome can never be seki. One side or the other must die. Type 2 fights are completely different.


Dia. 5

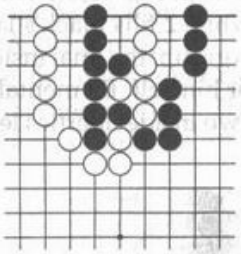

Dia. 6

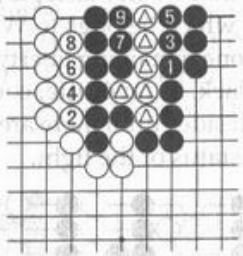

Dia. 7
2, 4, 6, 8
played elsewhere

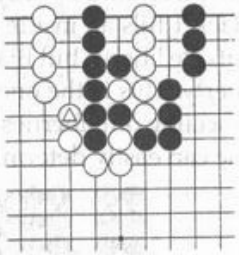
If Black and White have the same number of outside liberties and there are two or more inside liberties, the result is seki. In *Dia. 5*, however, Black has seven outside liberties. In this case, Black can play on all five of White's liberties, including the inside ones, before White can catch up, as *Dia. 6* shows. On the other hand, if White plays first as in *Dia. 7*, there is no way he can capture Black. Not only can Black win by playing as in *Dia. 6*, where he was three moves ahead, but Black can also ignore White and play elsewhere again and again and again, and still live in seki. Of course, Black has to be careful not to ignore White too many times, otherwise he really will look foolish.

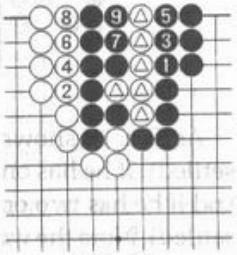
Now we can formulate some guidelines for reading out Type 2 fights. The side with more outside liberties is unconditionally alive. In this type of fight and in all the later types, we shall use the term favourite to describe the side that clearly has an advantage. The other side is the underdog. He is at a disadvantage, but he might be lucky if he has a sufficiently large number of outside liberties. The criterion for judging who is the favourite depends on the type of fight. Here, the favourite is the side with more outside liberties. In later fights, which involve eyes, things are different.

Dia. 8: Black is the favourite; he is alive. Does Black have enough liberties to kill White or is White alive in seki? To kill White, Black must play on all White's outside liberties and on the inside liberties. *Dia. 9* shows that when Black plays first, he can capture White. To determine whether the position is settled or unsettled, we simply compare the number of liberties on each side. If the numbers are equal, the position is unsettled and whoever plays first, gains. The problem is deciding which points are liberties. In *Dia. 8*, White has five liberties, because that's how many moves it takes Black to capture him. But Black effectively has an infinite number of liberties, since White cannot capture Black. What we want is to find a useful number that indicates whether Black can capture White. Saying that Black has seven liberties is effectively meaningless and certainly confusing. The obvious number to choose might seem to be the number of outside liberties that Black has. However —


Dia. 8


Dia. 9


Dia. 10

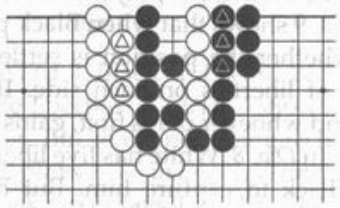

Dia. 11

In *Dia. 10*, Black has one fewer outside liberty than in *Dia. 8*. Black is still the favourite (four outside liberties to three). Black has four outside liberties against White's total of five outside and inside liberties. So White should be safe, with the position being settled as a seki, right? Wrong. *Dia. 11* may come as a rude shock to people who make assumptions like that. When Black plays first, White dies. To get the threshold for an unsettled position, we must count one inside liberty for the favourite. Note that this is not the case in later types of fights that involve eyes, which will be described later.

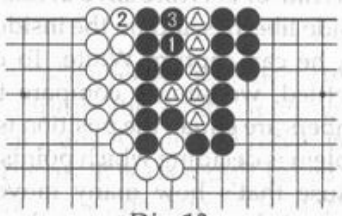
Reading Type 2 Fights

Returning to *Dia. 10*, here is the correct way to read the fight. Black is the favourite (four outside liberties to three). Black has five liberties (four outside liberties plus one inside liberty). White has five liberties (three outside liberties and all two of the inside liberties). The number of liberties is equal, so the position is unsettled. The favourite (Black) is unconditionally alive. If he plays first, he can kill. If the underdog (White) plays first, he can live in seki.

It would be unkind to expect you to learn a mysterious rule 'count one inside liberty for the favourite in Type 2 fights', so let's investigate it a little more.

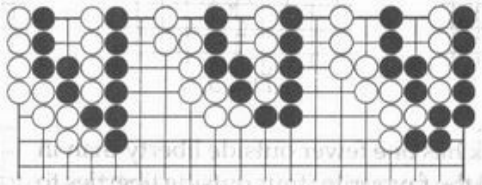


Dia. 12



Dia. 13

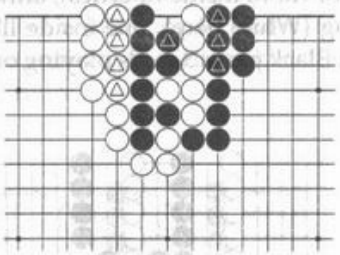
A useful way of analyzing the position is to cancel out equivalent liberties, as shown in *Dia. 12*. Here, we reduce the position to exactly two inside liberties (the minimum Type 2 fight) by adding an equal number of moves for each side. Now it should be easy to see that when Black plays first, as in *Dia. 13*, he wins. Black 1 fills an inside liberty, which belongs to White. White 2 fills Black's last outside liberty, but Black has one remaining liberty on his group: the final inside liberty. This is the one that Black, as favourite, counts for himself. By mentally canceling out liberties on both sides until there are only two inside liberties left, one can easily determine the status of the fight.



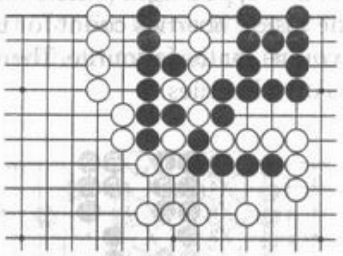
Dia. 14

As *Dia. 14* shows, if Black is left with no outside liberties, the result is seki (settled). If he has one outside liberty, Black can win if he plays first (unsettled). And if he has two or more outside liberties, he can play elsewhere and still win (settled). Note the word 'mentally' above. Don't play these moves in a real game in order to see what happens. Read the fight out in your head and only play it out if it works. Once the stones have been taken off the board there is no potential left and no ko threats.

Another approach, shown in *Dia. 15*, is to cancel the liberties all the way down to where Black puts White in atari. Here again it should be easy to see that if Black plays first he can capture White. Feel free to use whichever approach you prefer. It's the result that is important, not the method.



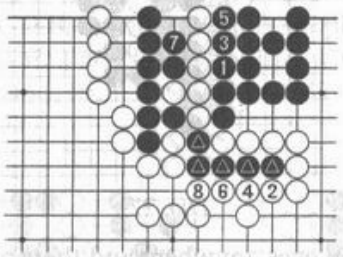
Dia. 15



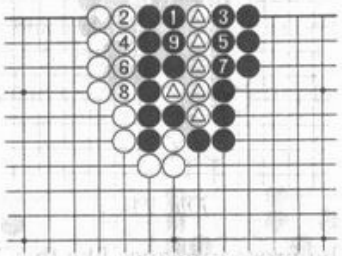
Dia. 16

Dias. 16 and *17* show why you should add one liberty for the favourite rather than subtract one for the underdog.

Firstly, in Type 1 fights, if there is one inside liberty, the favourite counts one inside liberty, so this is just the same. In fights that don't involve any eyes, the favourite always counts exactly one inside liberty (unless there are none at all); the underdog counts all the inside liberties. Secondly, the underdog's number of liberties is physically meaningful and should not be distorted. The favourite's number of liberties is an arbitrary number chosen for our convenience. In *Dia. 16*, Black needs to capture the White stones at the top before his cutting stones in the middle get captured. The white stones at the top really do have five liberties, not four. Therefore, as *Dia. 17* shows, Black loses by one move even if he plays first.



Dia. 17

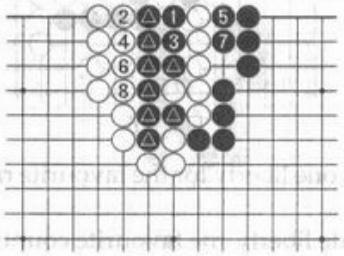


Dia. 18

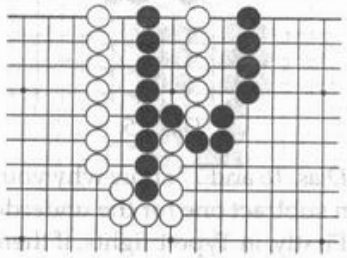
In *Dia. 18*, Black 1 is playing with fire; this is dangerous and should be avoided. You should always play on the outside liberties first and the inside liberties last. Actually, Black 1 is not fatal in this case; Black still wins the fight. But it's a very bad habit to get into. Reducing the number of inside liberties from two to one changes the type of fight. No longer is Black safely alive in seki. It's

now a fight to the death. This is like in the movies when the hero throws down his gun to make a fair fight against his unarmed opponent. There's no need to do this in go; use every advantage you have.

In *Dia. 19*, Black 1 is bad but not fatal; Black 3, however, is suicidal. The reason is that in a Type 2 fight (where there are two or more inside liberties), although all the inside liberties count for the underdog (White here), one inside liberty also counts for the favourite. Therefore, when Black plays 3, he is playing on one of his own liberties.

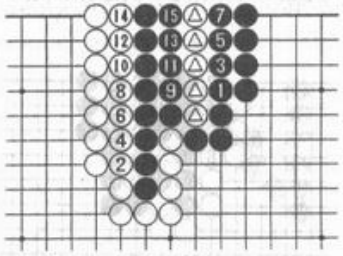


Dia. 19

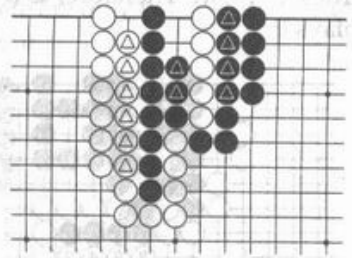


Dia. 20

Dia. 20: Reading practice. You should be able to read out this fight within 30 seconds. If you can't, check out the following explanation and then go back and try again. All you have to do is identify the type of fight and count the liberties on each side. Simple.



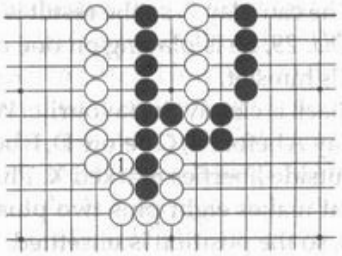
Dia. 21



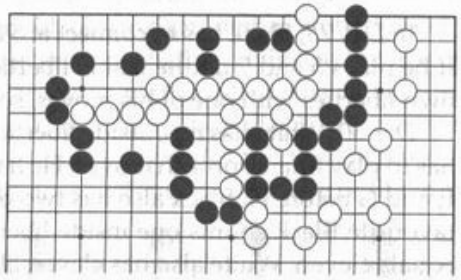
Dia. 22

The procedure goes like this. There are no eyes anywhere and there are at least two inside liberties, so it's a Type 2 fight. Black clearly has more outside liberties, so he is the favourite and unconditionally alive. Is White alive in seki or can Black kill him? Count Black's liberties: seven outside liberties and one inside liberty making a total of eight. (Don't forget to count one inside liberty for the favourite.) White has four outside liberties and four inside liberties making a total of eight. Eight against eight. The two numbers are equal, so the

position is unsettled. Black is alive and he can kill White if he plays first (*Dia. 21*). Alternatively, you can mentally cancel out an equal number of liberties on each side until there are only two inside liberties left (*Dia. 22*); since Black has one outside liberty, he has time to kill White (the position is unsettled). If White plays first, he can make a seki (*Dia. 23*). Does that analysis take long? The only difficult bit is knowing to count one inside liberty for the favourite. After that it's just a matter of counting liberties accurately, without missing any or counting any twice.



Dia. 23

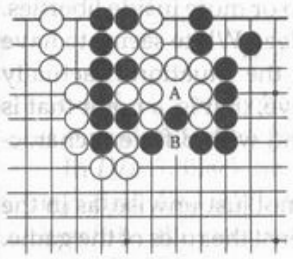


Dia. 24

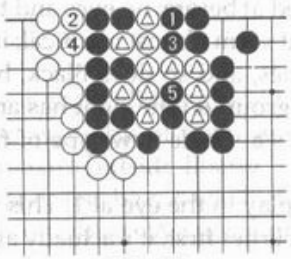
Dia. 24 shows one more example for practice. This time the answer is not given here. First read it out quickly; then take your time to check your answer. Practice until you are confident you will get it right every time in an actual game, even under time pressure.

Approach Moves

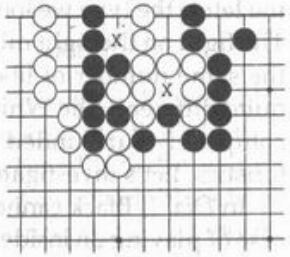
Look at *Dia. 25*. Can you read out the result? If Black plays A, White will capture at B. However, in this simple situation, Black can play on all the other liberties first and finally capture with 5, as shown in *Dia. 26*. In *Dia. 27*, on the other hand, there are two inside liberties. Black can't save two different places until last.



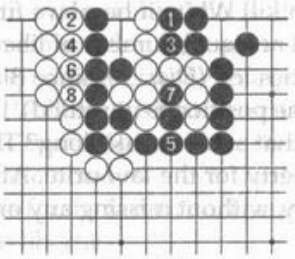
Dia. 25



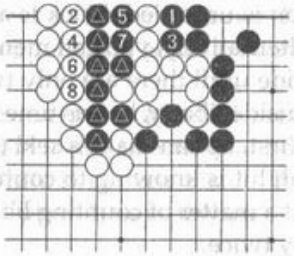
Dia. 26



Dia. 27



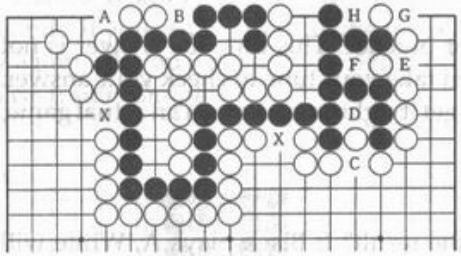
Dia. 28



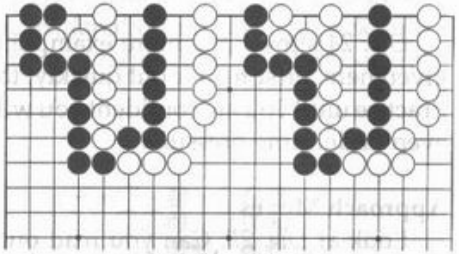
Dia. 29

In *Dia. 28*, Black has to connect at 5 before he can play 7, so the result is seki. If he plays 5 and 7 on the inside liberties in *Dia. 29*, he is playing on one of his own liberties with one of his moves, so he kills himself.

Dia. 30: White has no outside liberties, so Black is clearly the favourite. White has to play four approach moves: He has to play A before B, C before D, E before F, and G before H. Black also has two other outside liberties marked X. Plus, as favourite Black counts one inside liberty. That makes eight plus two plus one equals eleven. White also has eleven liberties, so the position is unsettled.



Dia. 30



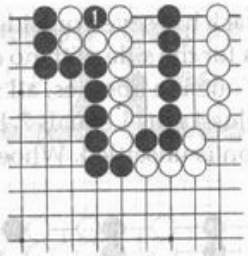
Reference Diagram

Type 3 Fights: One Eye Versus No Eyes

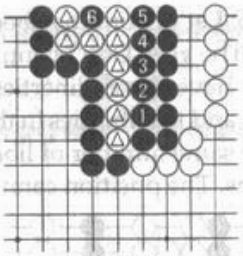
From now on, we'll consider fights that involve eyes.

The *Reference Diagram* shows two rather similar-looking fights. The one on the left is the type we looked at before: no eyes and two or more inside liberties. The fight on the right might seem almost identical; indeed White seems to have the same number of liberties, and so does Black, but the situation is actually quite different. The White group on the right has an eye; that is, a point that is completely surrounded. It's a whole new type of fight, with different characteristics. Let's investigate.

In *Dia. 1*, Black cannot play in the eye at 1. This is not just unwise, as in the case of playing on inside liberties first, it's actually against the rules of the game. Black 1 is illegal.



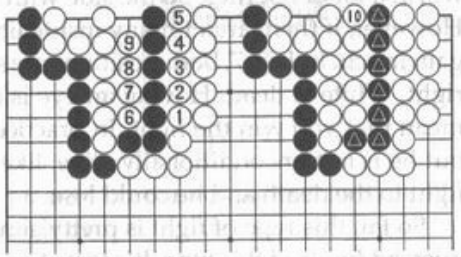
Dia. 1



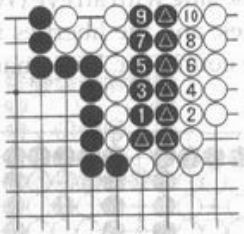
Dia. 2

Black can only play in the eye last, when capturing the stones leaves him with liberties at the end of his turn. Thus, Black can capture the White stones by first playing on all the other White liberties and finally playing in the eye, as shown in *Dia. 2*. However, to do that, Black must play on all the inside liberties. What if he does nothing? Is he alive in seki if he lets White play first?

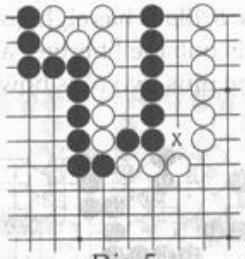
Dia. 3 shows that White can fill Black's outside liberties and then proceed to fill the inside ones. If Black sits back and does nothing, he dies. In a fight where one side has an eye and the other doesn't (Type 3 fight), the position can never become seki. It's a fight to the death and one side must lose. Since Black's only way to try and win is to play on all the inside liberties in order to be able to play in the eye, the inside liberties all count for the side with the eye (White here); they are not liberties for the other side (Black).



Dia. 3



Dia. 4

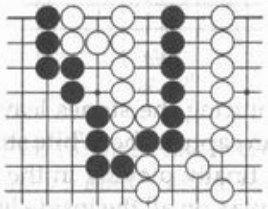


Dia. 5

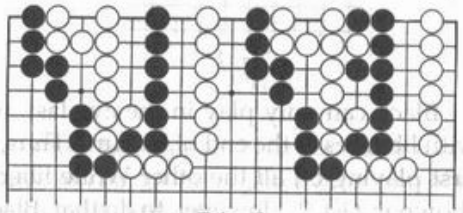
So Black's only chance is to fill all the inside liberties while White is filling his outside liberties. However, in this position, as *Dia. 4* shows, Black loses.

In *Dia. 5*, Black has an extra outside liberty. This time Black can win if he plays first. And if White plays first, he can win by filling an outside black liberty. Therefore, the position is unsettled. Whoever plays first wins. The position cannot become seki.

Dia. 6: Let's count the liberties in this fight. Black has seven outside liberties. That's all he gets. Don't count the inside liberties for the side with no eye. Black does not have eleven liberties. White counts his outside liberties, all the inside liberties, and the liberties in the eye. That's two plus 4 plus 1 equals 7. Both sides have the same number of liberties, so the position is unsettled. Whoever plays first, wins. The position cannot become seki.



Dia. 6

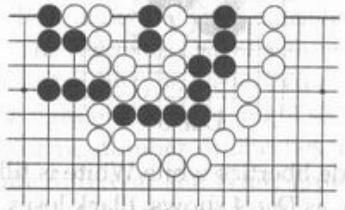


Dia. 7

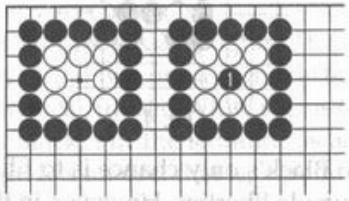
Having an eye when your opponent doesn't have one can be a big advantage. You count all the inside liberties and, as we shall see later, if your eye is big, it's worth a lot of liberties. So the side with the eye is the favourite to win the fight. However, if there aren't many inside liberties and your eye is small, you don't gain much. In *Dia. 7*, both positions are settled. On the left, Black is dead; on the right, White is dead. Having an eye is certainly an advantage, but it does not mean that you win the fight. In practice, the side with the eye does often win, but he is not unconditionally alive, like the favourite is in a Type 2 fight. It's a fight to the death and he could lose.

So far, this type of fight is pretty simple. But in actual games, many players misread fights of this type. It's tempting to believe that the inside liberties count for your group even when it doesn't have an eye.

In *Dia. 8*, Black has eight (outside) liberties. The side with an eye (White here) counts his outside liberties, all the inside liberties, and the liberties in the eye. That's one plus two plus however many the eye counts for. How many do you think?



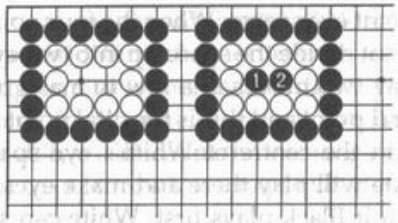
Dia. 8



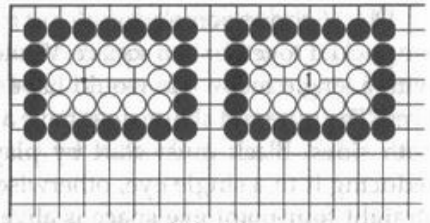
Dia. 9

How Many Liberties Does an Eye Have?

Dia. 9: An eye surrounding one point on the board (a one-point eye space) has one liberty.



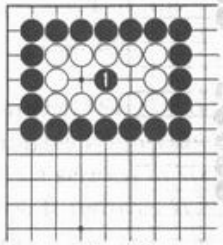
Dia. 10



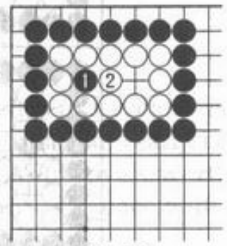
Dia. 11

Dia. 10: An eye surrounding two points on the board (a two-point eye space) has two liberties.

Dia. 11: Here, White's eye surrounds three points of territory. In this case, if White plays first, he can make two eyes. Then his group is alive, so there is no way Black can capture it.



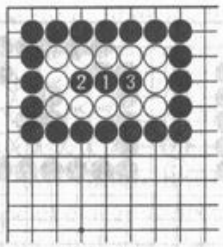
Dia. 12



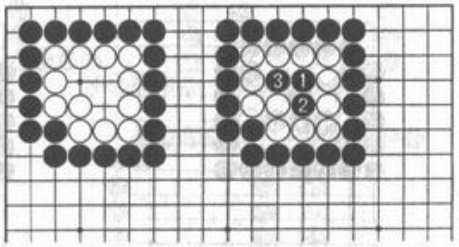
Dia. 13

Dia. 12: If Black plays first, he must play on the correct point. Playing in the centre of the eye-space reduces it to a single eye.

Dia. 13: If Black plays on any other point, White will play the central point and make two eyes.



Dia. 14

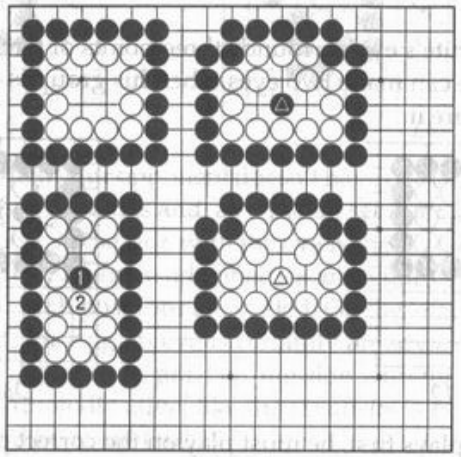


Dia. 15

Dia. 14: It takes three moves to capture a three-point eye space.

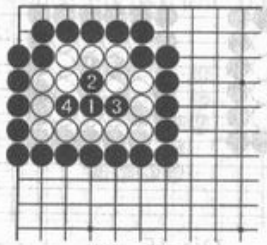
Dia. 15: The shape of an eye has no effect on the number of liberties, except in some special cases as we'll see later. A bent three-point eye space has exactly the same number of liberties as a straight one.

Dia. 16 shows some examples of four-point eye spaces. When the four points are packed together in a square, White cannot divide the space up into two eyes with a single move. He would have to play two moves in a row to make two eyes. The pyramid shape does have a central point and this is the vital point for both sides. Black must start by playing in the centre of White's eye space, reducing it to a single eye, otherwise White will play there and make eyes. A straight four-point eye space is alive. Even if Black plays first, White can still make two eyes. In that case, there is no fight.

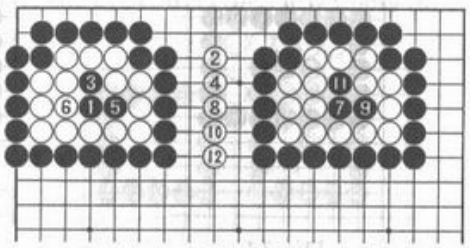


Dia. 16

Dia. 17 shows that Black could capture a four-point eye in four moves, if White didn't fight back. But that is not the best White can do. He can get more liberties than that.



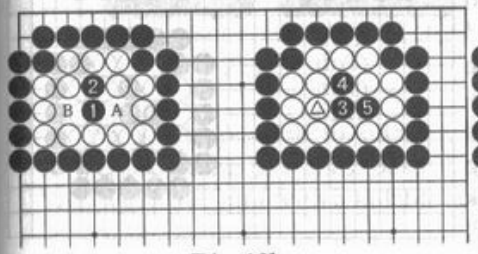
Dia. 17



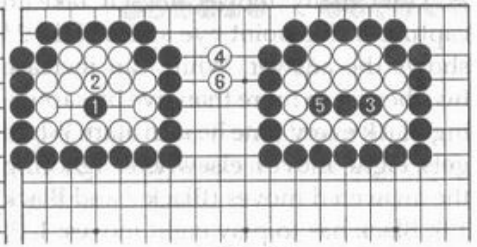
Dia. 18a

Dia. 18a: When Black plays 5, putting White in atari, White should capture the three stones with 6. This leaves White with a three-point eye space. Black plays the vital point with 7 and then captures after two more moves, 9 and 11.

How many moves did that take? Not six (1, 3, 5, 7, 9, and 11). We only count the moves that White did not answer, i.e., when he could have fought back by playing on Black liberties in a fight. Here White answered 5 with 6. So White was only free to play elsewhere five times (2, 4, 8, 10, and 12). In the positions in *Dia. 18b*, we discount the exchange of Black A for White B. Thus, it takes five moves to capture a four-point eye space.



Dia. 18b

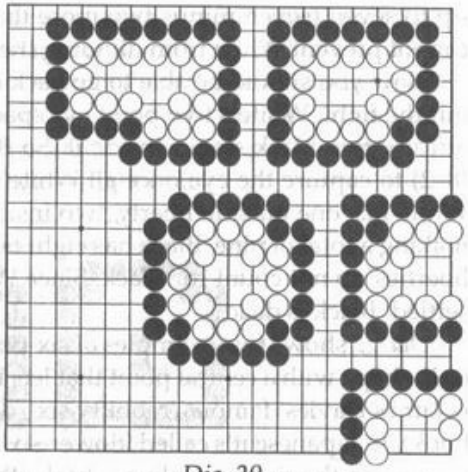


Dia. 19

White 6 in *Dia. 18a*, playing inside his own eye when in atari to capture the stones, maximizes Whites liberties. However, playing inside too early, i.e., when not in atari, is a serious mistake. In *Dia. 19*, White 2 is effectively worth minus three liberties. It reduces White's eye to a three-point eye space with a stone already inside.

Check for yourself that in small eye spaces (one, two, and three points), White cannot increase his liberty count by capturing the stones that Black plays inside the eye.

Here is a good thing to remember. Eye spaces up to and including three have the same number of liberties as the number of points they surround. Eyes surrounding four or more points have more liberties than the number of points they surround. We'll call them small eyes and big eyes respectively. These names are not merely descriptive. Big eyes and small eyes have different properties and the type of eye governs the type of fight, as we shall see later.

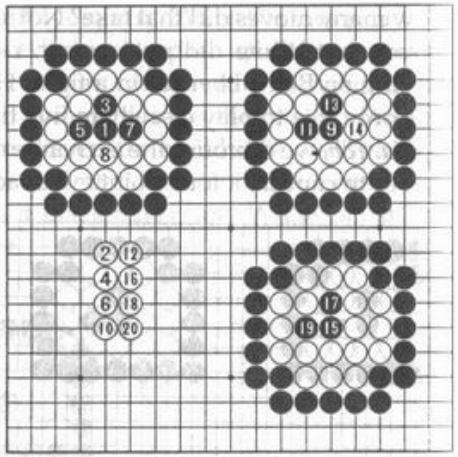


Dia. 20

Dia. 20 shows some examples of five-point eye spaces. If White plays first, he can make two eyes in every case. Black must play the central point to prevent this and reduce the

space to a single eye in order to make a fight of it. In one of the positions, White is already alive; compact eye-spaces are bad at making two eyes; elongated shapes are better. Check the other five-point eye shapes for yourself.

How many moves does it take to capture a five-point eye space? *Dia. 21* shows the answer. White can increase his liberties to more than five by capturing Black every time he is in atari. White gets eight moves elsewhere. Ignoring the answered moves (Black 7 and Black 13), Black has to play eight moves: 1, 3, 5, 9, 11, 15, 17, and 19. Thus, it takes eight moves to capture a five-point eye space.

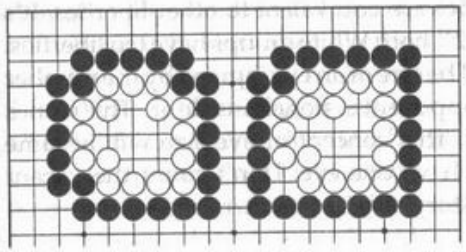


Dia. 21

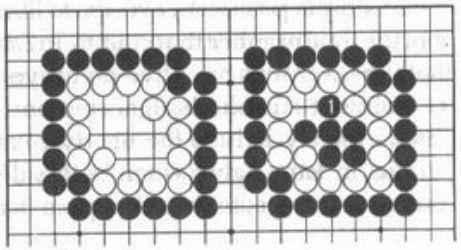
Some people like to read out a fight move-by-move. Others prefer to use memory-aides, such as the sequence: 1–1, 2–2, 3–3, 4–5, 5–8, 6–12, 7–17. The choice is yours; whatever works best for you is fine. To understand how the sequence arises, and to predict the next one, notice that in a five-point eye, Black plays three unanswered moves and then White answers the next move, which is atari, by capturing the black stones, leaving an eye space one point smaller. To get the number of liberties of the next bigger eye space, simply add two less than the number of points in the eye-space. That is, a five-point eye has three (five minus two) liberties more than a four-point eye. Likewise a six-point eye has four (six minus two) liberties more than a five-point eye. It's worth knowing up to seven (seven minus two more than a six-point eye). Beyond that, Black cannot prevent White from dividing the eye space up and getting two eyes.

Now you should be able to go back to *Dia. 8* and count the liberties to read out the fight. White's five-point eye space is worth eight liberties, but there are already two black stones inside it. So Black will only need to play six moves (8–2) to capture the eye once all White's other liberties have been filled. Thus White has one outside liberty, two inside liberties, and six eye-space liberties, making a total of nine. Black has eight outside liberties and that's all. The inside liberties do not count for Black. Since White has more liberties, the position is settled: Black is dead.

Dia. 22 shows two examples of six-point eye spaces. The one on the left is the only shape with a central point that lets Black reduce White to a single eye. This is James Davies' famous 'rabbitty six', discussed in *Life and Death* (a wonderful book). In Japanese it's called 'flower-six'. All other six-point eye shapes, such as the one on the right, are alive. Check other shapes for yourself.

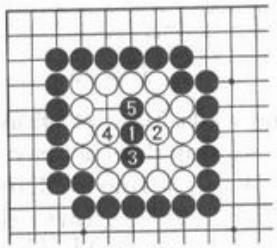


Dia. 22

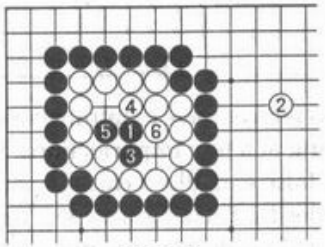


Dia. 23

Dia. 23: It's possible to kill a seven-point eye if you can almost fill it with a flower-six clump of stones. Black 1 puts White in atari, so White will capture. This will leave him with a killable six-point eye space.

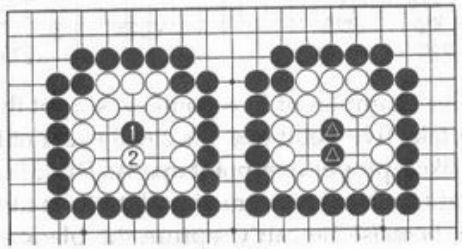


Dia. 24



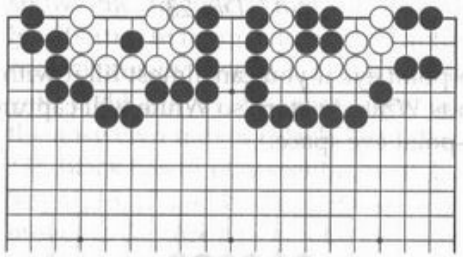
Dia. 25

However, you can't kill an empty seven-point eye by starting by putting one stone inside it. As *Dia. 24* shows, White can easily make a seki, which is alive. In fact, depending on the shape, the first move may not even by sente (i.e., not even a ko threat). In *Dia. 25*, White can ignore Black 1 and still live. In the shape in *Dia. 26*, however, Black 1 does threaten to reduce White to one eye, so White has to answer at 2 if he wants to live. However, it takes seventeen moves to fill a seven-point eye space, so if Black has any weaknesses in his position, White might choose to ignore Black 1 and make a fight of it.

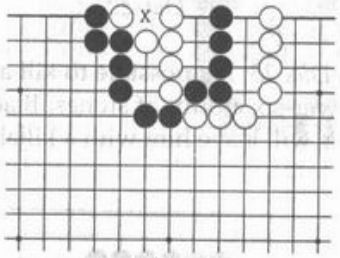


Dia. 26

In simple positions, eye-space liberties are equivalent to other liberties. It's just the total number that counts. In *Dia. 27*, both White groups have ten liberties. Both these groups have five-point eyes. The size of an eye is given by the number of points it surrounds, ignoring any opponent's stones inside it. The stones inside merely reduce the liberty count. This concept of eye-size will become crucial in later fights when both sides have one eye. Don't count the vacant points in the eye; look at the space (territory) White has surrounded.

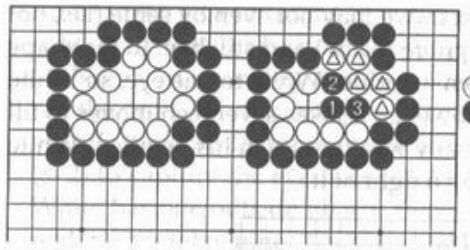


Dia. 27

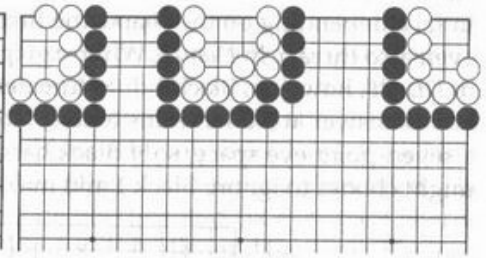


Dia. 28

So far, we have carefully concentrated on solid walls. Now let's finish off by looking at a few imperfections. In *Dia. 28*, White's group does not have an eye; it's a false eye. Black can play at X at any time, without having to fill the inside liberties first. This is a Type 2 fight not a Type 3 fight. *Dia. 29* shows a defective eye. Although this four-point eye space is a real eye (White could answer Black 1 by connecting one of his cutting points), it does not have five liberties. Black can capture half the White stones in three moves, and if that doesn't win the fight, he can catch the rest in one more move.



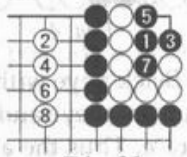
Dia. 29



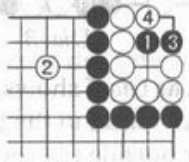
Dia. 30

Dia. 30 shows three examples of five-point eyes. Spot the odd man out. The one on the right is a fake five-point eye. It's a real eye (not false), but it doesn't have eight liberties, like a proper five-point eye. As *Dia. 31* shows, if White does nothing, Black can capture him in four moves. But White cannot wait until Black 5 puts him in atari, because he can't capture the black stones by playing 7 himself. That's illegal, because Black has a liberty at the 1–1 point. White's last

chance to play inside is at 4 in *Dia. 32*. But, as we saw in *Dia. 19*, playing inside before one is in atari loses liberties. After 4, White has a four-point eye space with two stones inside. This has three liberties. Ignoring the exchange of Black 3 for White 4, Black played one move, Black 1, so it takes Black four moves in all to fill this eye. How do you tell if an eye is this special kind of fake eye? Well, it only happens when Black can surround a liberty himself (e.g., at the 1-1 point). So if both 2-1 points are unoccupied, the eye-space has fewer liberties than usual. Fake eyes can also occur on the side.



Dia. 31



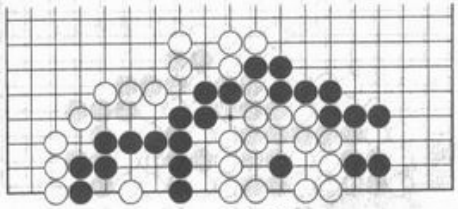
Dia. 32

	Small eye			Big eye			
Eye space:	1	2	3	4	5	6	7
Liberties:	1	2	3	5	8	12	17

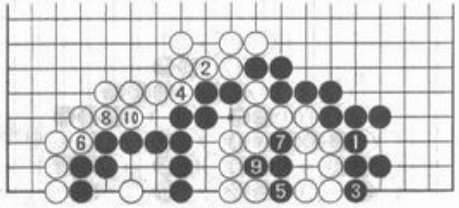
Type 4 Fights: Big Eye Versus Same-Size Big Eye

A fight in which each side has a single big eye of the same size is very similar to one where neither side has an eye. However, there are two important differences.

In *Dia. 1*, Black and White each have a five-point eye. Black is clearly the favourite because he has more outside liberties. Can Black kill White? Let's investigate.



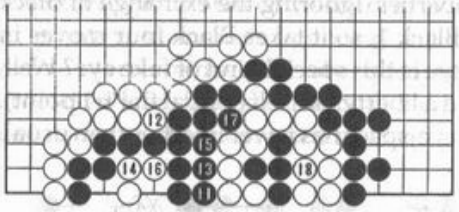
Dia. 1



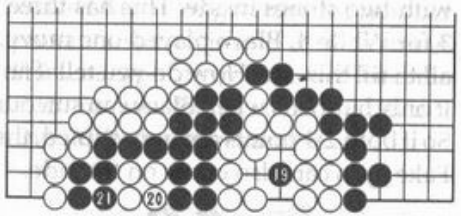
Dia. 2

In *Dia. 2*, Black fills White's outside liberties and then proceeds to fill the eye liberties. But he can't fill the last eye liberty while White still has other liberties on his group; that's illegal. So if Black wants to continue trying to kill White, his only option is to fill the inside liberties with 11 to 17 in *Dia. 3* (next page). Black 17 puts White in atari, so White captures at 18. With 19 in *Dia. 4*, Black must play

in the center of White's eye space to prevent White from getting two eyes. Then White 20 puts Black in atari, so he must capture with 21.

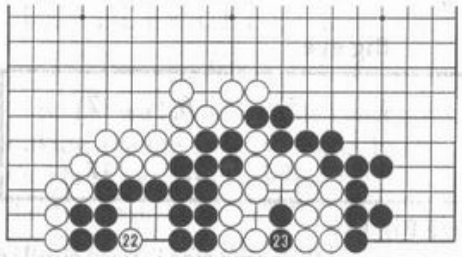


Dia. 3

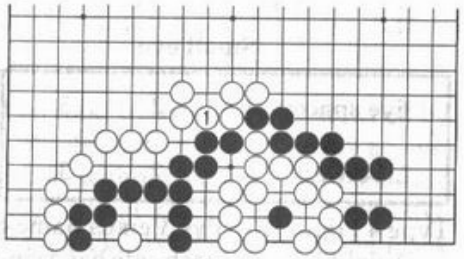


Dia. 4

Now, as *Dia. 5* shows, when White plays inside Black's eye with 22, Black 23 puts Black ahead in the fight. Both sides have a four-point eye and there are no inside or outside liberties. Black clearly wins the race. Thus the answer to the original question is that in *Dia. 1*, if Black plays first he can kill White.

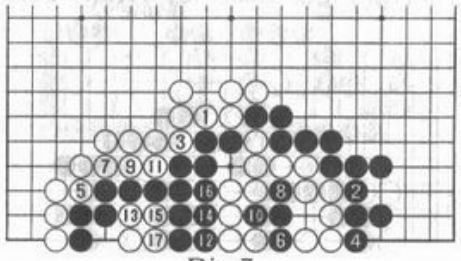


Dia. 5

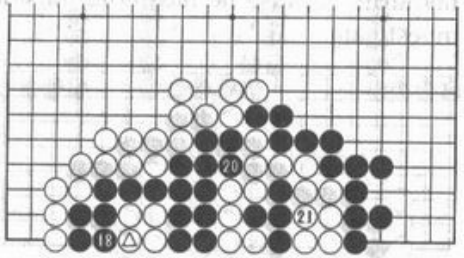


Dia. 6

What happens if White plays first? White 1 in *Dia. 6* makes a seki. Black should play elsewhere, but let's see what happens if he continues to try and kill White.



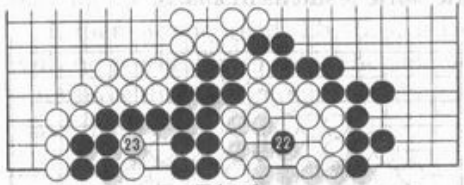
Dia. 7



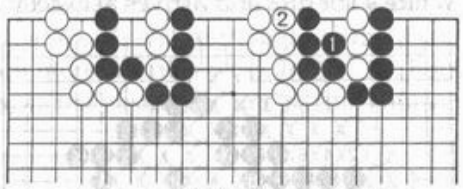
Dia. 8 19: at △

After White 17 in *Dia. 7*, it would be suicidal for Black to play the final inside liberty; he would be putting himself into atari and White would just capture him. But it would be illegal for Black to play inside White's eye. So his only possible move is to play inside his own eye capturing the white stones with 18 in *Dia. 8*. Then Black has enough liberties to play the final inside liberty with 20.

White captures with 21, Black takes the central point of White's eye with 22 in *Dia. 9*, and White plays 23.



Dia. 9

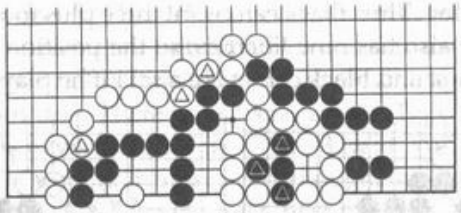


Dia. 10

Now the position is easy to read. It's like *Dia. 5*, except this time White is a move ahead. In striving to kill White, Black has ended up killing himself. He shouldn't have tried to fill the final inside liberty at 20. In fact, he should have stopped after White 1 in *Dia. 6*.

Thus the final evaluation of *Dia. 1* is that the favourite (Black) can kill and the underdog (White) can make a seki. In order to kill, the favourite has to play on all the inside liberties, so they all count for the underdog. This is one of the differences from a Type 2 fight (where neither side has an eye), in which the favourite counts one inside liberty. In *Dia. 10*, when Black plays the final inside liberty, he captures the white stones. This last inside liberty is thus a liberty for the Black stones. However, in a Type 4 fight, Black must fill all the inside liberties before he can play the final liberty in White's eye. So none of the inside liberties count as black liberties. They all count for White.

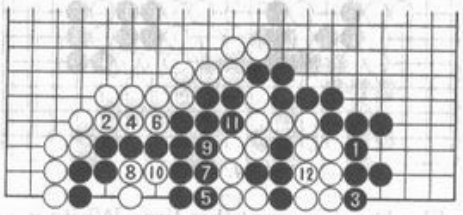
Now we can return to *Dia. 1* and formulate guidelines for counting the liberties. The favourite is the side with more outside liberties (in this case, Black). Black has six outside liberties. White has two outside liberties and four inside liberties. Both sides have the same number of liberties in their eyes (8 minus 1). Therefore the numbers of liberties are equal, so the position is unsettled. The favourite is unconditionally alive and can kill if he plays first. The underdog can make a seki if he plays first.



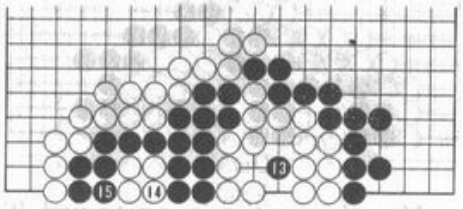
Dia. 11

Dia. 11 shows a similar position to *Dia. 1*. Here there are three extra stones inside White's eye and Black has three fewer outside liberties. The situation is exactly equivalent to *Dia. 1*. The number of stones in the eye only affects the

liberty count, so both sides have the same number of liberties, just like in *Dia. 1*. *Dias. 12–14* show what happens when Black plays first. He proceeds to fill in White's liberties and arrives at exactly the same result as in *Dia. 5*.

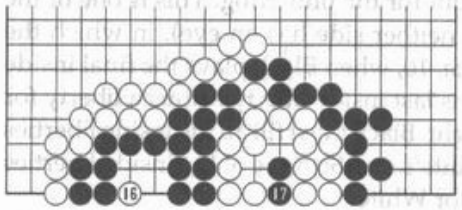


Dia. 12

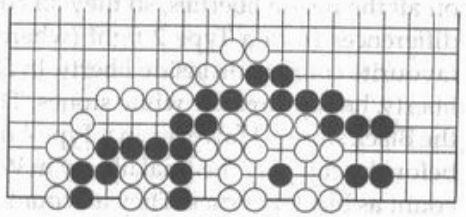


Dia. 13

In *Dia. 11*, Black has three outside liberties plus seven (8–1) eye liberties, making a total of ten. White has two outside liberties, four eye liberties (8–4), and four inside liberties, making a total of ten. If Black plays first he can kill White. If White plays first, he can make a seki.

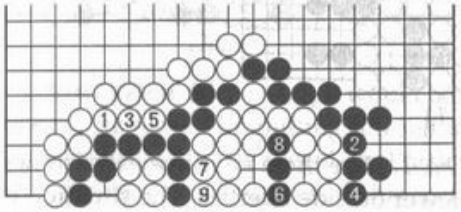


Dia. 14

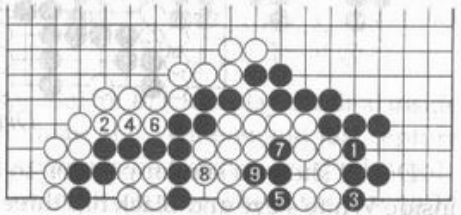


Dia. 15

In *Dia. 15*, Black has more outside liberties than White (3 to 2), but that does not make him the favourite. The favourite is determined by the side with more outside plus eye liberties (i.e. more exclusive liberties). In this case, Black's eye is full of White stones so his exclusive liberty count is three outside plus four (8-4) eye liberties. White's exclusive liberty count is two plus seven. Therefore, in *Dia. 15*, White is the favourite and is unconditionally alive. The inside liberties count for the underdog. Thus Black can count three plus four plus two liberties, making nine. White also has nine liberties, so the position is unsettled. White can kill if he plays first and Black can make a seki if he plays first.



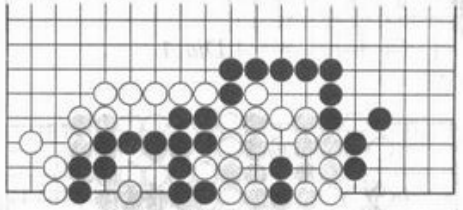
Dia. 16



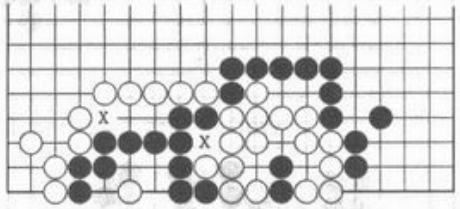
Dia. 17

Dias. 16 and *17* should be sufficient to make this clear. After 9 in *Dia. 17*, it would be suicidal for either side to play inside his own eye to make way for playing the last inside liberty. So both sides leave the position and it's seki.

If there are no inside liberties, as in *Dia. 18*, it's a straight fight to the death with no possibility of seki. The side with more liberties wins. In *Dia. 18*, both sides have the same number of liberties, so the position is unsettled. Whoever plays first, wins.

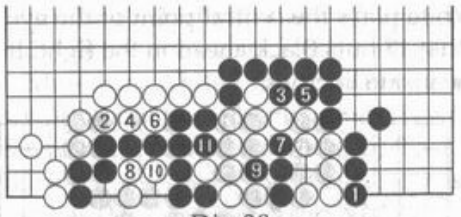


Dia. 18

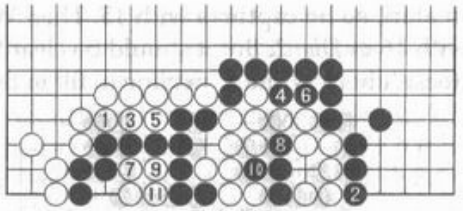


Dia. 19

One inside liberty is sufficient to introduce the possibility of seki. This is the second difference from a Type 2 fight, which needs at least two liberties for the position to become seki. In *Dia. 19*, Black has one extra outside liberty, so he is the favourite, but the inside liberty counts for White, so the total liberty counts are still equal. If Black plays first, he can kill (*Dia. 20*) and if White plays first, he can make a seki (*Dia. 21*).



Dia. 20



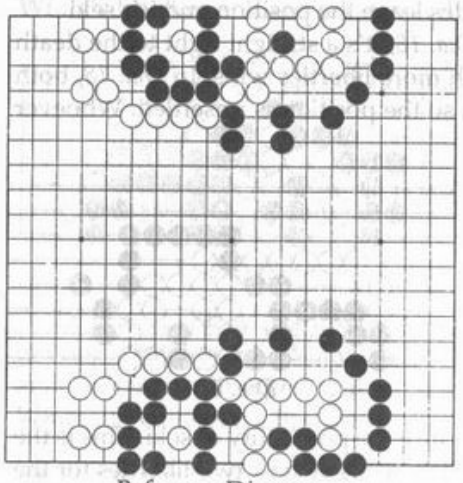
Dia. 21

Type 5 Fights: Big Eye Versus Smaller Eye

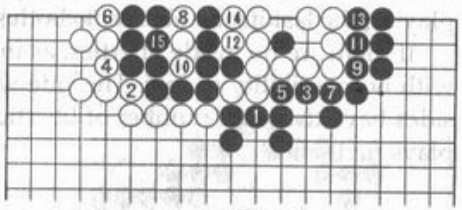
A fight in which one side has a big eye and the other side has a smaller eye (Type 5 fight) is very similar to a fight in which one side has an eye and the other side has no eyes (Type 3 fight). It would be nice to be able to say they were exactly the same, but it's not true. There is a special case in Type 5 fights that permits seki, whereas seki is never possible in a Type 3 fight. We'll look at this special case at the end of this section. In most cases, though, the two types are identical, like the examples in the *Reference Diagram* (next page).

The fight at the bottom is a Type 3 fight. Black is the favourite because he has an eye, so he counts all the inside liberties. The liberty counts are equal, so the position is unsettled. Whoever plays first, wins. The position cannot become seki.

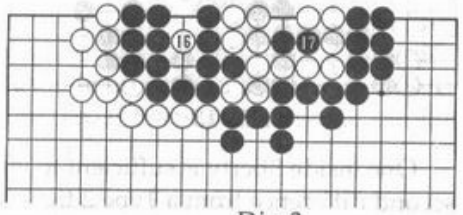
The fight at the top is a Type 5 fight. It's exactly equivalent to the fight at the bottom. But let's investigate.



Reference Diagram

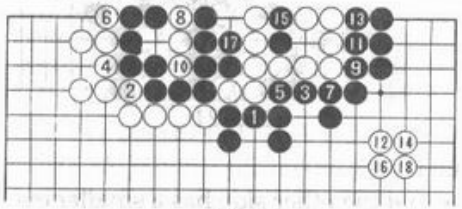


Dia. 1

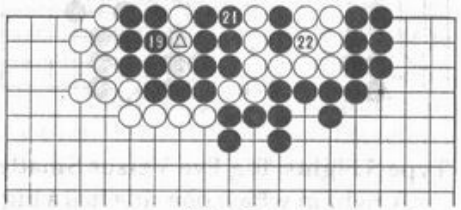


Dia. 2

What happens if Black plays first? In *Dia. 1*, Black fills in White's outside liberties with 1–13, while White fills in Black's outside liberties and all but one of his eye liberties, and then starts filling the inside liberties. White 14 puts Black in atari, so he captures with 15. Then White plays the central point of the eye with 16 in *Dia. 2*. But it should be clear that 17 puts Black ahead in the fight. It doesn't help White to decline to fill in the inside liberties.



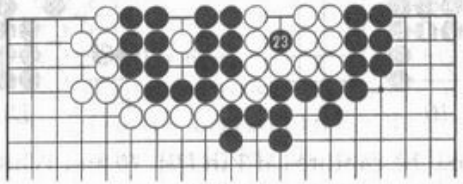
Dia. 3



Dia. 4
20: at △

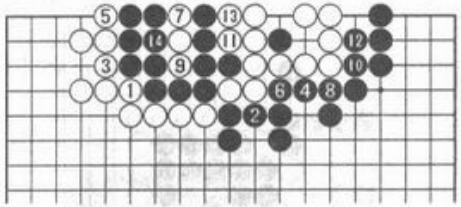
If he plays elsewhere with 12–18 in *Dia. 3*, Black fills them instead. After 17, it would be suicidal for Black to play the last inside liberty and it would be illegal for him to play the last liberty in White's eye. So he captures with 19 in *Dia. 4*. White plays back in the eye with 20, but Black's eye has enough liberties for him to win, as shown in *Dia. 5*. The minimum big eye is a four-point eye. When Black captures with 19, he is left with a three-point eye, which has three liberties. However, White has been reduced to only two liberties: the two unapproachable ones that Black couldn't fill before playing 19. Therefore, even though it's

White's move next at 20, White is one move behind. In conclusion, White has no choice but to fill the inside liberties. If he doesn't, Black will win. The inside liberties count for Black and not for White, just like in a Type 3 fight.

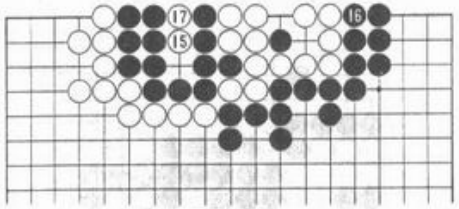


Dia. 5

If White plays first, he can win the fight, as *Dias. 6* and *7* show.



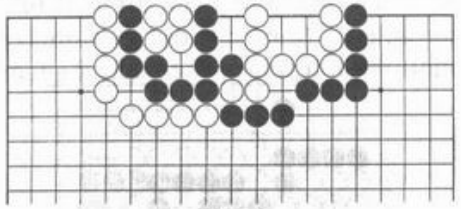
Dia. 6



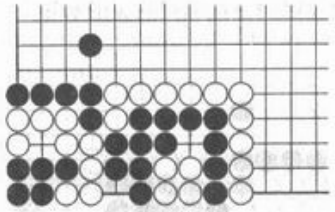
Dia. 7

Which Eye is Bigger?

In *Dia. 8*, which side has the bigger eye? Black's eye is filled with white stones and only has one vacant point, whereas White's eye has four vacant points inside it. Moreover, White's four-point eye is worth five liberties whereas Black's eye is worth only four (8-4) liberties. However, neither of these facts is relevant in determining which eye is bigger. Black has a five-point eye while White has a four-point eye. Therefore, Black's eye is bigger and Black counts all the inside liberties. This position is settled. White is dead. Please confirm this by yourself by reading out the fight.

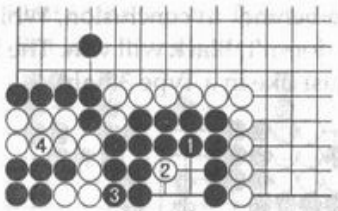


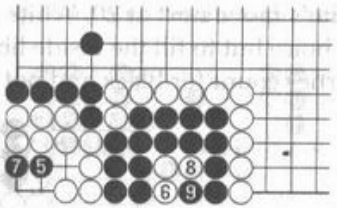
Dia. 8



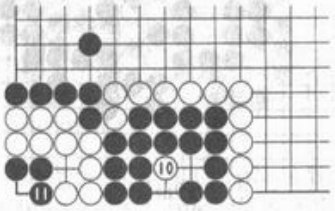
Dia. 9

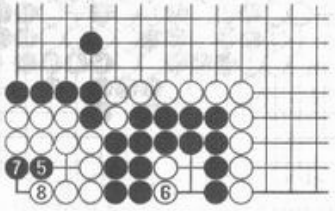
Dia. 9 shows a fight between two one-eyed groups. At first glance, it might seem that White has a six-point eye while Black has only a five-point eye. If that were the case, Black would be dead since he has no outside liberties. However, White's eye is not as big as it might seem.


Dia. 10

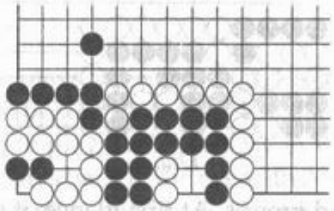

Dia. 11

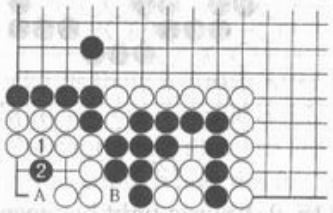
If Black plays first, he captures at 1 in *Dia. 10* and White fills in a liberty in his eye with 2. Then Black fills the inside liberty with 3, putting White in atari, so White captures with 4. Then Black takes the central point of White's eye with 5 in *Dia. 11*, and both sides continue to fill each other's eyes.


Dia. 12


Dia. 13

White might seem to be comfortably ahead, but Black 11 in *Dia. 12* puts White in atari and White cannot capture him because Black has made an eye for himself at the 1-1 point, inside White's group. We looked at this special kind of fake eye in the section about Type 3 fights. If Black makes an eye inside White's group, then White's "six-point" eye is only worth four liberties. However, if White plays inside his own eye with 8 in *Dia. 13*, he reduces the size of his eye, making it the same size at Black's. As you can clearly see in *Dia. 14*, this is now a Type 4 fight; both sides have a big eye of the same size, with the same number of liberties. It's Black's turn, so he will win.


Dia. 14

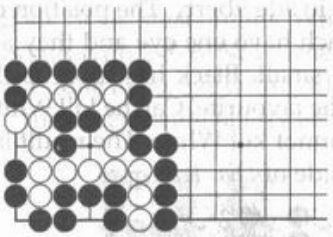

Dia. 15

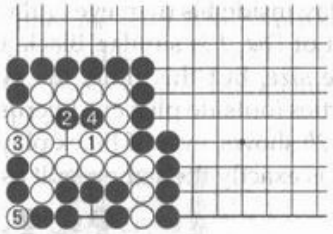
If White plays first in *Dia. 9*, we get *Dia. 15*. White's problem is the same as before — he doesn't have any good moves. His only choices are A and B, but

both of them reduce his own liberty count. Please read the result out for yourself. Going back to *Dia. 9*, the conclusion is that White's eye is effectively not bigger than Black's. It's the same size and Black is ahead in liberties. Thus, the position is settled: White is dead.

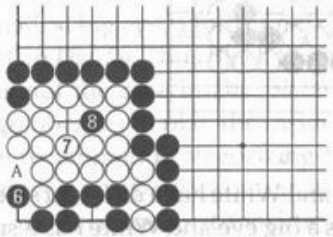
Seki with Big Eye Versus Smaller Eye

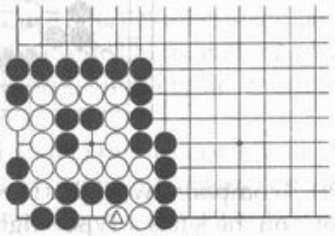
The difference between 'big eye versus a smaller eye' and 'one eye against no eyes' is that seki is possible in the former but not in the latter. This can happen if there is an approach move on the inside liberties, as shown in *Dia. 16*. The moves in *Dias. 17* and *18* follow naturally. Now it should be clear that it would be suicidal for White to play the inside liberty at A. And if Black plays at A, White captures and the position is unchanged. Thus neither side can kill the other. It's a seki. This result is impossible in 'one eye against no eyes,' as you should be able to see in *Dia. 19*. White can approach from the other side, putting Black in atari, and there's nothing Black can do to prevent it.


Dia. 16


Dia. 17

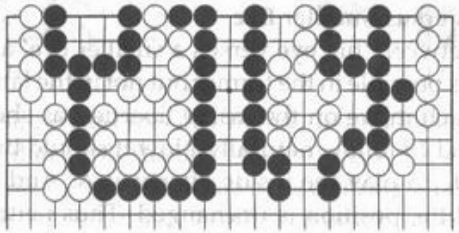
The reason seki is possible in a Type 5 fight can be understood with reference to *Dias. 1* and *2* and their explanations above. The effect of the internal approach move in Dia. 16 is to weaken the advantage of the big eye. The difference in liberties between the big eye and the small eye is reduced and is no longer sufficient for the favourite to win. Even if the favourite has more liberties (for example, outside liberties), the position will end up as some kind of approach-move ko instead of being unconditionally dead or alive.


Dia. 18


Dia. 19

Type 6 Fights: Small Eye Versus Small Eye

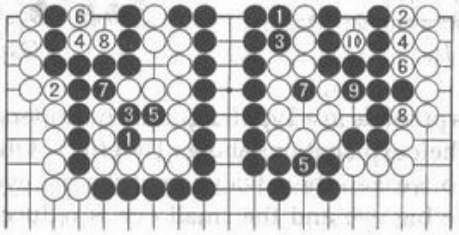
Dia. 1 compares two fights. The one on the left is a Type 4 fight. Black and White each have one big eye and they are the same size. Black is the favourite and unconditionally alive; the inside liberties count for White. Can Black kill White?



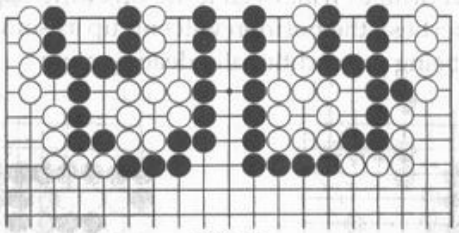
Dia. 1

You should be able to read out that the position is settled; it's seki. *Dia. 2a* demonstrates: after 8, as we have seen before, it would be suicidal for either side to play inside his own eye and then play the inside liberty. The position on the right of *Dia. 1* is similar. Black and White each have one eye and they are the same size, but this time, the eyes are both small. Black has more exclusive liberties (outside plus eye liberties), so he is the favourite. Can he kill White? As *Dia. 2b* shows, even if Black plays first, he cannot kill White. The result is seki. This is exactly the same result as on the left side of *Dia. 1*.

Dia. 2a



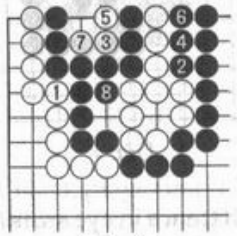
Dia. 2b



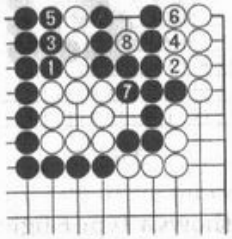
Dia. 3

Dia. 3 compares two fights in which Black and White have different size eyes. The one on the left is a Type 5 fight. Black has a big eye and White has a smaller eye, so Black is the favourite. The inside liberties all count for Black, so he is well

ahead in the fight, 8 to 4. White is dead. *Dias. 4a* and *5a* demonstrate how there is nothing White can do to avoid being captured. In a real game, Black would not need to play out these moves. They are shown here just for proof.

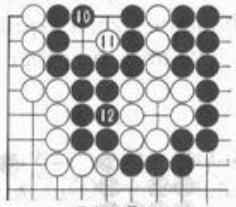


Dia. 4a

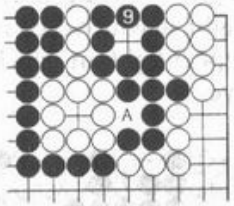


Dia. 4b

In *Dia. 3*, unlike *Dia. 1*, the position on the right is different from the one on the left. If it were a case of a big eye versus a small eye, then we would expect Black to win, 7 to 4. But rather than make assumptions like that, let's investigate. In *Dia. 4b*, Black starts filling White's outside liberties with 1 to 5 and White follows suit with 2 to 6. Now when Black plays the inside liberty with 7, White throws a stone in his eye with 8. Black is stuck. He doesn't have enough liberties to play the other inside liberty at A in *Dia. 5b*. It's a seki.



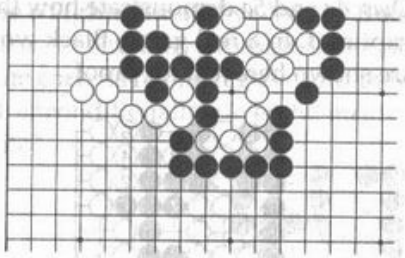
Dia. 5a
9: played elsewhere



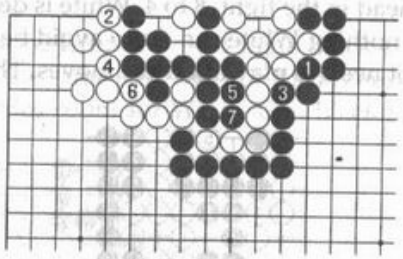
Dia. 5b

The difference between the two fights in *Dia. 3* arises from the properties of a big eye. In *Dia. 4a*, Black can fill all but one inside liberty and all but one of White's eye liberties. That is, White has two unapproachable liberties. However, the smallest big eye, a four-point eye, still has three liberties after Black captures with 10 in *Dia. 5a*. Thus Black has time to play the inside liberty with 12 and win. This is not the case in *Dia. 5b*. When Black captures with 9, he doesn't have enough liberties to play the inside liberty, so it's seki.

We recommend categorizing *Dias. 2b* and *4b* together as one type of fight. However, if you prefer you can extend Type 4 to cover both big and small eyes of the same size and just consider *Dia. 4b* alone as Type 6. As long as you get the right answer when you read out the fight, it makes no difference.

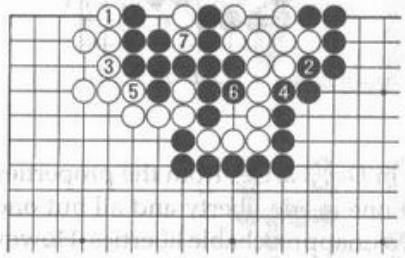


Dia. 6

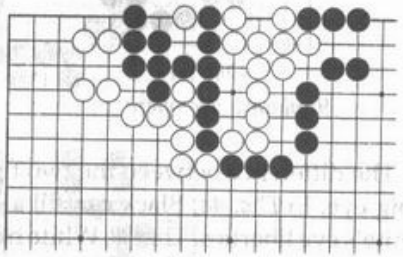


Dia. 7

Dia. 6 shows a Type 6 fight with the greatest difference in eye sizes. Black has the biggest possible small eye, a three-point eye, and White has the smallest possible eye, a one-point eye. Can you read out the status of the fight? If Black plays first (*Dia. 7*), he has just enough liberties to play the inside liberties and put White in atari. If White plays first (*Dia. 8*) he can make a seki. Returning to *Dia. 6*, let's count the liberties. Black is the favourite because he has more exclusive liberties (not because he has a bigger eye). He counts three outside liberties and two eye liberties, making five. White counts two outside liberties, one eye liberty, and two inside liberties, making five. The liberty counts are equal, so the position is unsettled. Black can kill and White can make a seki. In a Type 6 fight, the inside liberties all count for the underdog. This is the same as a Type 4 fight, in which each side has a big eye of the same size. It's quite different from a Type 5 fight, in which one side has a big eye and the other side has a smaller eye.

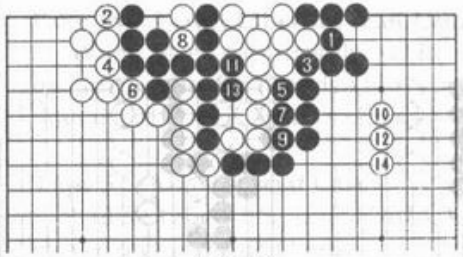


Dia. 8

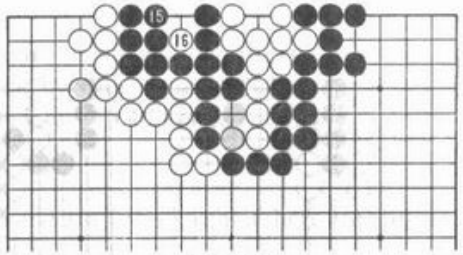


Dia. 9

In *Dia. 9*, the eyes are the same sizes as in *Dia. 6*, but the inside and outside liberty counts are different. If this were a case of a big eye versus a small eye, then Black could play elsewhere since he would be well ahead in the fight. But that isn't the case. In this position Black does count the inside liberties, not because he is the favourite in a Type 5 fight, but because he is the underdog in a Type 6 fight. White is the favourite and is unconditionally alive.

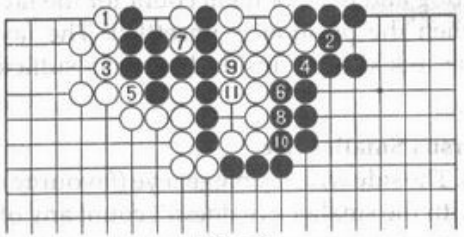


Dia. 10



Dia. 11

Even if Black plays first (*Dia. 10*), he cannot kill White. It's a seki as *Dia. 11* shows. If White plays first (*Dia. 12*), he cannot kill either. It's a seki. The status of *Dia. 9* is that White is the favourite because he has more exclusive liberties (6 to 5), but he does not have enough liberties to kill Black. White has six liberties while Black has eight. The position is settled.



Dia. 12

Summary of Fights

Type 1: Zero or One Inside Liberty

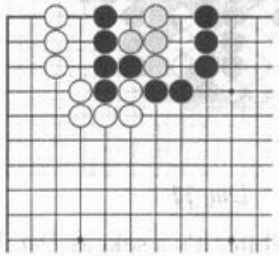
Each side counts his outside liberties and the inside liberty if there is one. If the numbers are equal, then the position is unsettled and whoever plays first wins. Seki is not possible.

Type 2: Two or More Inside Liberties

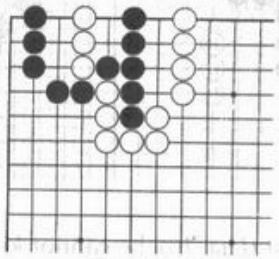
The side with more outside liberties (favourite) counts all his outside liberties and one inside liberty. The underdog counts all his outside liberties and all the inside liberties. If the numbers are equal, the position is unsettled. The favourite can kill; the underdog can make a seki.

Type 3: One Eye Versus No Eyes

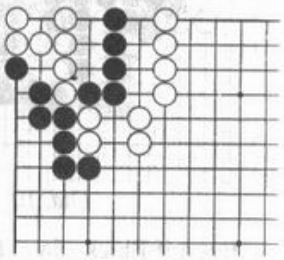
The side with the eye (favourite) counts all the inside liberties. The side with no eye doesn't count any of the inside liberties. If the liberty counts are equal, then the position is unsettled and whoever plays first wins. The position can never become seki. Big eyes have more liberties than the number of points they surround.



Type 1



Type 2



Type 3

Type 4: Big Eye Versus Same-Size Big Eye

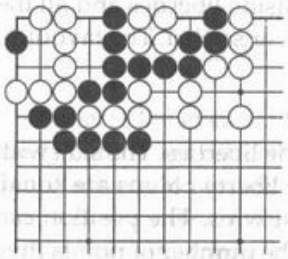
The side with more exclusive liberties is the favourite. All the inside liberties count for the underdog and none of them count for the favourite. If the liberty counts are equal, then the position is unsettled. The favourite can kill; the underdog can make a seki. One inside liberty is sufficient to make seki a possibility.

Type 5: Big Eye Versus Smaller Eye

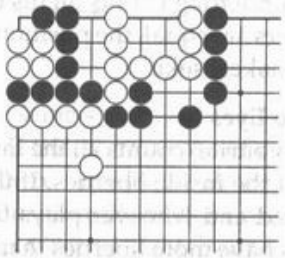
Similar to Type 3. The side with the bigger eye (favourite) counts all the inside liberties. The side with the smaller eye doesn't count any of the inside liberties. If the liberty counts are equal, then the position is unsettled and whoever plays first wins. However, seki is possible if there are internal approach moves.

Type 6: Small Eye Versus Small Eye (Can Be Different Sizes)

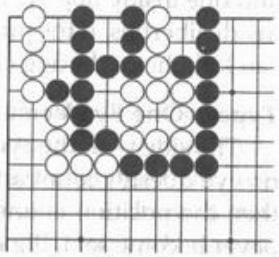
Similar to Type 4. The side with more exclusive liberties is the favourite. All the inside liberties count for the underdog and none of them count for the favourite. If the liberty counts are equal, then the position is unsettled. The favourite can kill and the underdog can make a seki. One inside liberty is sufficient to make seki a possibility.



Type 4



Type 5



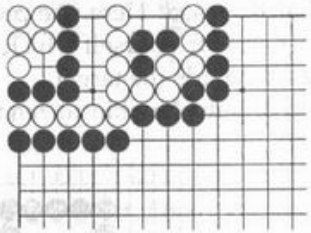
Type 6

Fake Eye: Fewer Liberties than Usual

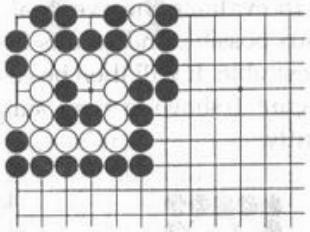
When Black captures the white stones in his eye, White can make an eye inside it, unless Black adds a move inside. In either case, Black has fewer liberties than usual. In this example, Black's eye is worth 4 liberties not 7 (12–5).

Type 5 Seki: A Special Case

Unlike Type 3, it's possible to have a seki in a Type 5 fight if there are approach moves on the inside liberties.



Fake Eye



Type 5 Seki

Chapter Eight

How to Win Capturing Races

The Throw-in

Having studied how to count liberties, the next step is how to win capturing races. Obviously you must play on your opponent's liberties, but which liberty should you play first?

Many book problems and also real-life positions are difficult because it's hard to evaluate the eventual result and see that it's good. Here, we present various possible end results first, so you can work out for yourself which ones are desirable. It will then be easier to find the path towards the target.

Figure 1 shows a very simple fight that you should be able to read out instantly.

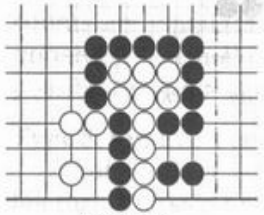
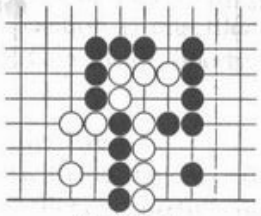
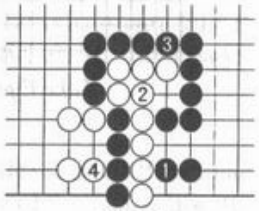


Figure 1



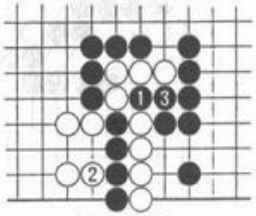
Position 1



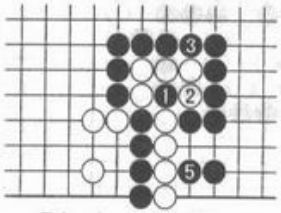
Dia. 1a

Position 1 shows the fight a few moves earlier. Black wants to play on the white liberties, but which one should he play first? If Black plays 1 in *Dia. 1a*, White will play 2. Then, after Black 3 and White 4, the result is easy to read. Black is a move behind. However, the throw-in at 1 in *Dia. 1b* is a powerful tesuji.

You'll find many examples of this technique in books such as *Get Strong at Tesuji*, the series *Graded Go Problems*, and *Tesuji*. However, it's important to understand that there are positions where the throw-in is a bad move. You need to think of the tesuji, read out the continuation in your head, and evaluate the result. If it works, fine. But if it doesn't work, don't play it; look for another move instead. After Black 1 in *Dia. 1b*, if White fills in one of Black's outside liberties, Black connects at 3 and the result is easy to read. Black is a move ahead.



Dia. 1b



Dia. 1c *4: at 1*

If White captures with 2 in *Dia. 1c*, Black ataris at 3, forcing White to connect. Now after Black 5, we get the result in *Figure 1*, which you've already read out. Black wins.

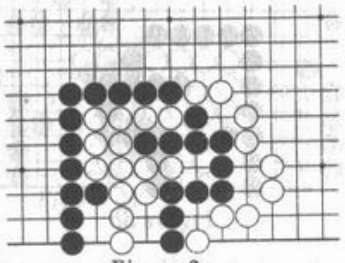


Figure 2a

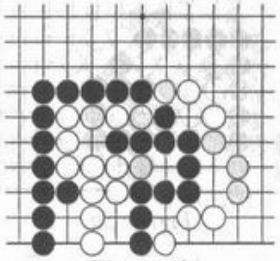
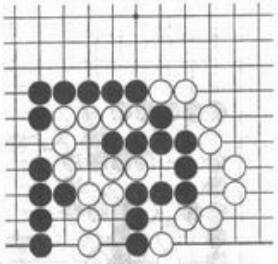
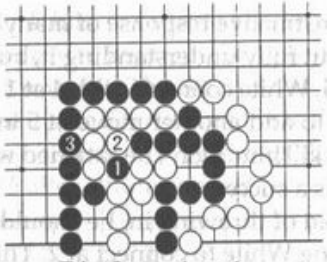


Figure 2b

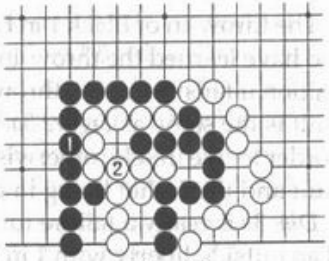
Figures 2a and *2b* show two possible results of a fight. What is the status in each figure? They are both Type 2 fights, where there are two or more inside liberties. Black has more outside liberties, so he is the favourite. In *Figure 2a*, the fight is unsettled: if Black plays first he can kill White, and if White plays first he can live in seki. In *Figure 2b*, there is one more inside liberty. This belongs to the underdog, which is White. This fight is settled. Even if Black plays first, he cannot kill White, who is alive in seki. Of these two figures, clearly *Figure 2a* is preferable for Black. *Position 2* shows the same fight a few moves earlier. Black to play.



Position 2



Dia. 2a *4: at 1*



Dia. 2b

Once again, the throw-in, at 1 in *Dia. 2a*, is the tesuji. Black 3 is atari, forcing White to connect at 4. Now the fight is the same as *Figure 2a*. It's Black's turn to play, so if he fills one of White's outside liberties he can kill him. Playing Black 1 in *Dia. 2b* lets White take the vital point and connect at 2. This is the result shown in *Figure 2b*. Even though it's Black's turn next, he can't kill White. The fight is settled; it's seki.

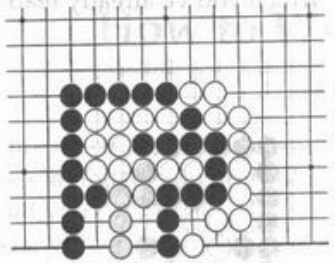


Figure 3a

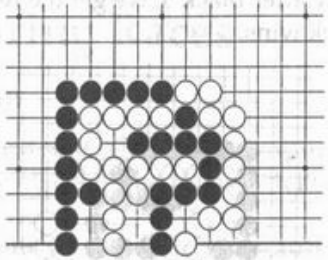
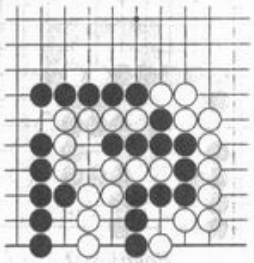
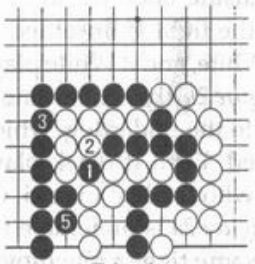
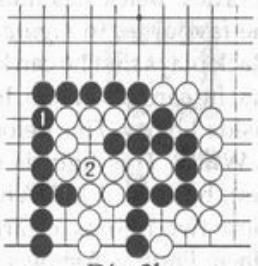


Figure 3b

Next, read out the status of *Figures 3a* and *3b*, then, look at *Position 3* where it's Black to play.


Position 3


Dia. 3a
4: at 1


Dia. 3b

The throw-in of Black 1 in *Dia. 3a* is the instinctive response of many players who have learned the throw-in tesuji without fully understanding it, but in this position it fails. After the throw-in and atari, White connects with 4 at 1 and the result is the same as *Figure 3a*. Black needs to add another move at 5 in *Dia. 3a* in order to live in seki; otherwise, White can kill him. Don't be satisfied with that result and think that living in gote counts as a success.

Dia. 3a is really a failure for Black. Instead of throwing in, he should simply fill an outside liberty with 1 in *Dia. 3b*, forcing White to connect at 2. This result is the same as *Figure 3b*. The situation is settled. Black is already alive in seki and can take sente to play elsewhere. The important point to understand about the throw-in tesuji is that, while it efficiently reduces liberties, it's essential to know whose liberties you are reducing. In *Position 3*, Black is the underdog because he has fewer outside liberties. Therefore, the inside liberties belong to Black. If he throws in at 1 in *Dia. 3a*, he reduces his own liberties. This is a sharp contrast to the first two positions.

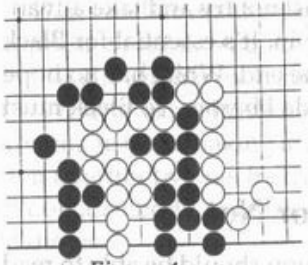


Figure 4a

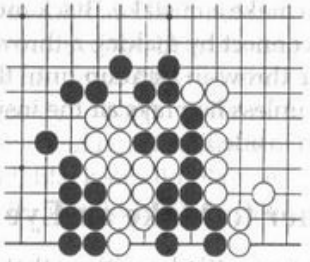
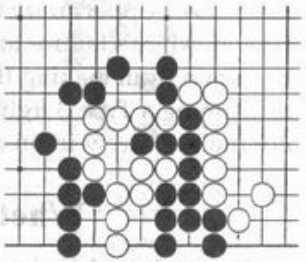
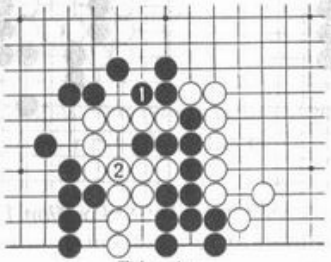
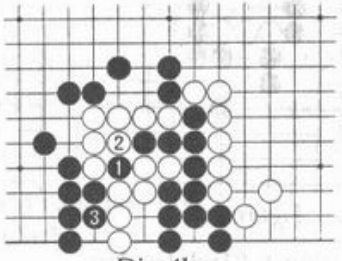


Figure 4b

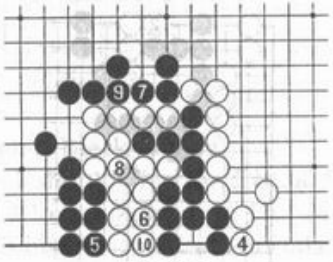

Position 4

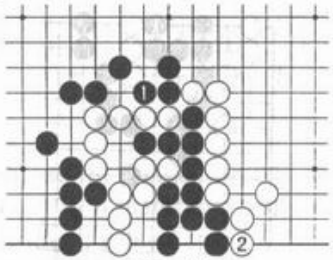
Figures 4a and *4b* show two possible results of a Type 3 fight, where Black has an eye and White doesn't. *Figure 4a* is clearly a more desirable result for Black because he counts the inside liberties; the status is unsettled. In *Figure 4b*, on the other hand, Black is dead. *Position 4* shows the fight a few moves earlier, where it's Black to play. Think about the answer before reading on.


Dia. 4a


Dia. 4b

If Black fills an outside liberty with 1 in *Dia. 4a* and White connects at 2, the result is easy to read out. The position is unsettled and Black will win because it's his turn next. The throw-in at 1 in *Dia. 4b* is a mistake because in a Type 3 fight, the inside liberties belong to the side with the eye. So here Black is reducing his own liberties. *Dia. 4c* shows the continuation, which becomes the same as *Figure 4b* after White connects at 8. White 10 puts Black in atari and it's all over.


Dia. 4c


Dia. 4d

White 2 in *Dia. 4a* simplifies the situation. Instead, White 2 in *Dia. 4d* offers Black more opportunity to make a mistake. Black must not try and take advantage of White's failure to connect by making a throw-in. It's essential for Black to refrain from making the throw-in right up until the end. White has no hope of winning a Type 3 fight unless he plays all the inside liberties, so Black must not make a throw-in on an inside liberty.

Whether to Make an Eye or Not

Figures 1a and *1b* show two settled positions that you should be able to read out instantly. In *Figure 1a*, White is dead. (It's a Type 3 fight and Black is ahead in liberties by 5 to 3.) In *Figure 1b*, the position is a seki. (It's a Type 2 fight and neither side has enough liberties to kill the other.

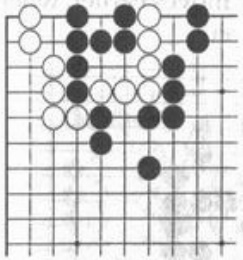


Figure 1a

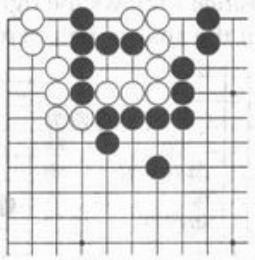
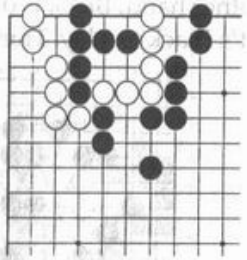
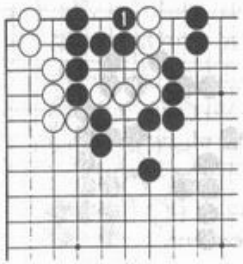


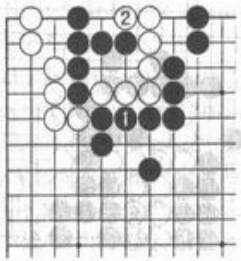
Figure 1b


Position 1

Position 1: Black to play

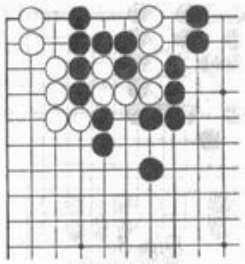
It should be clear from the first two figures that Black should make an eye with 1 in *Dia. 1a*. This kills White. Note that if White answers by filling one of Black's outside liberties, Black can play elsewhere. Then White will have died in gote. Instead of making the eye, as in *Dia. 1a*, playing on an outside liberty with Black 1 in *Dia. 1b* allows White to take the vital point of 2, so neither side will be able to make an eye. This result is *Figure 1b*.

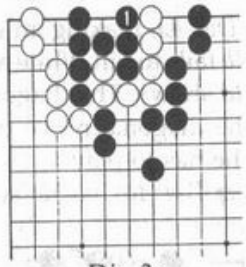

Dia. 1a

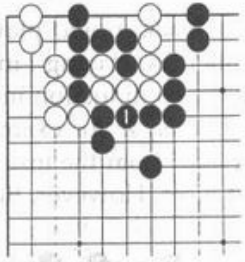

Dia. 1b

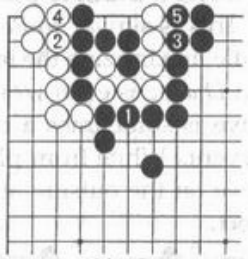
Position 2: Black to play

Don't rush to make an eye with 1 in *Dia. 2a* before stopping to think. A quick count of the liberties in *Dia. 2a* shows that each side has three liberties and it's White's turn. In this position, Black gains no advantage from making an eye and he decreases his own liberties by one. Instead, Black should play on an outside liberty, as in *Dia. 2b*. Then he wins, as *Dia. 2c* shows.


Position 2

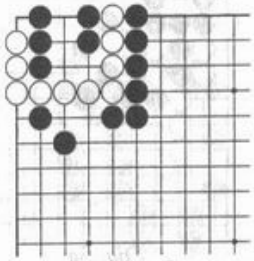

Dia. 2a

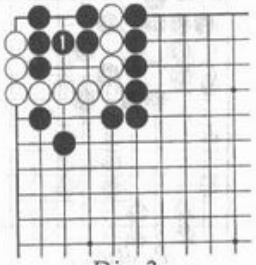

Dia. 2b

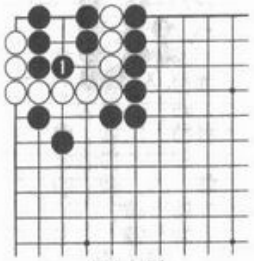

Dia. 2c

Making an eye when your opponent doesn't have one (and can't make one later) has four possible effects:

- It gives you exclusive possession of all the inside liberties.
- It may force your opponent to make approach moves.
- It may decrease your own liberties.
- It eliminates the possibility of you living in seki.

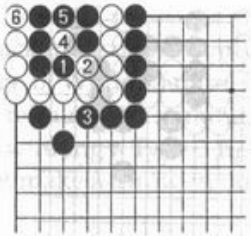

Position 3

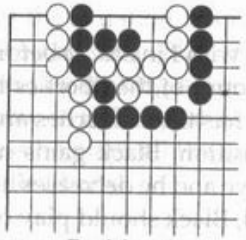

Dia. 3a

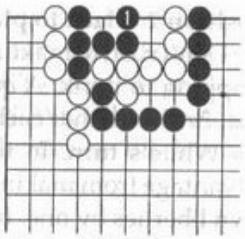

Dia. 3b

Position 3: Black to play

Black should play 1 in *Dia. 3a*. This gives him all the inside liberties, so he is ahead 4 to 3. Playing 1 in *Dia. 3b* is a mistake. Black may think this reduces White's liberties, but he is mistaken. All the inside liberties belong to Black, so Black is the only side losing liberties as a result. As *Dia. 3c* shows, White wins.

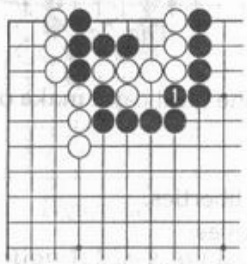

Dia. 3c

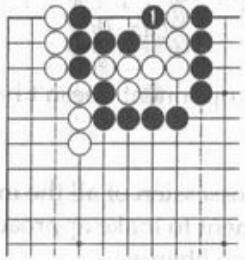

Position 4

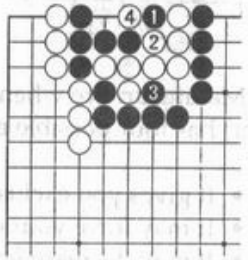

Dia. 4a

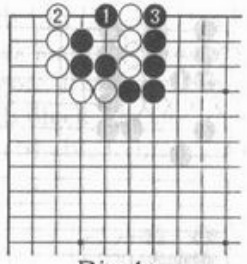
Position 4: Black to play

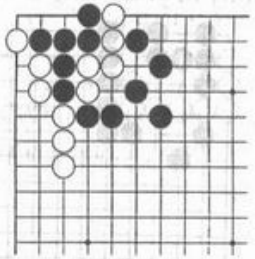
This is similar to *Position 3*. Black should play 1 in *Dia. 4a*, making an eye while maximizing the inside liberties. Playing 1 in *Dia. 4b* fails to kill White and 1 in *Dia. 4c* is even worse, as the continuation in *Dia. 4d* shows. The diagonal move is sometimes a tesuji. In *Dia. 4e* for example, the diagonal move of 1 prevents White from playing atari from the inside, so he has to play an extra move on the outside at 2 and loses. However, Black 1 in *Dia. 4c* has no such effect.

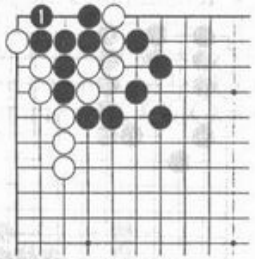

Dia. 4b


Dia. 4c


Dia. 4d


Dia. 4e


Position 5

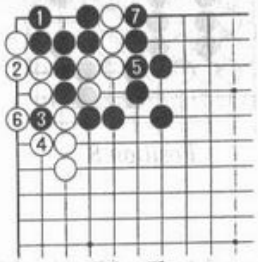

Dia. 5a

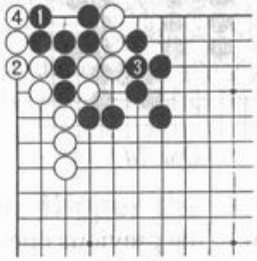
Position 5: Black to play

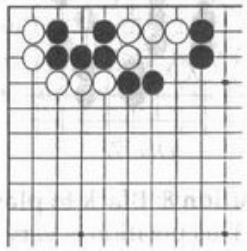
Black looks to be in trouble. He has two liberties to White's three, so if he fills one of White's outside liberties, White will simply put him in atari.

Making an eye with 1 in *Dia. 5a* is the key move. Since there aren't any inside liberties in this fight, this may not seem very beneficial. However, the second effect of making an eye is to force the opponent to make approach moves in

certain positions, and this is one of those positions. When White connects at 2 in *Dia. 5b*, Black cuts at 3. This forces White to play two moves to capture the stone before he can play atari in the corner. As a result, Black wins. If Black neglects to cut and starts filling White's outside liberties with 3 in *Dia. 5c*, White can atari at 4.

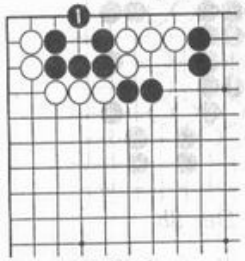

Dia. 5b

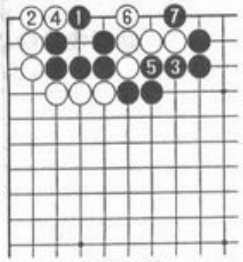

Dia. 5c

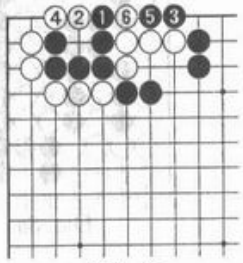

Position 6

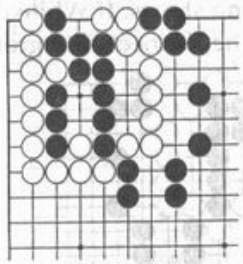
Position 6: Black to play

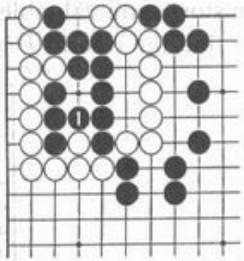
Black should make an eye with 1 in *Dia. 6a*. This forces White to make approach moves, so Black wins as *Dia. 6b* shows. Playing 1 in *Dia. 6c* loses, as does 1 at 6 or anywhere else.

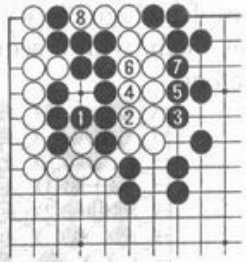

Dia. 6a


Dia. 6b


Dia. 6c


Position 7

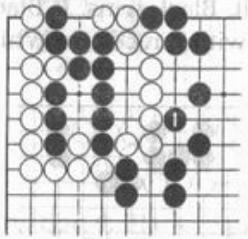

Dia. 7a

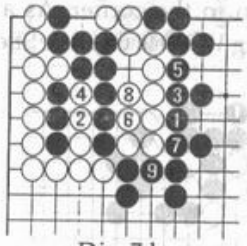

Dia. 7b

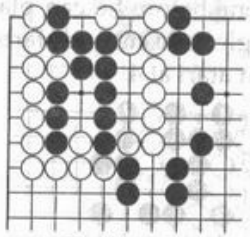
Position 7: Black to play

Making an eye with 1 in *Dia. 7a* is very tempting. But a quick count of the liberties shows five each and it's White's turn to play. So Black dies as shown in *Dia. 7b*. Instead Black should fill an outside liberty, as shown in *Dia. 7c*. Although

Black loses three stones, he saves the majority of his group by living in a seki, as shown in *Dia. 7d*.


Dia. 7c

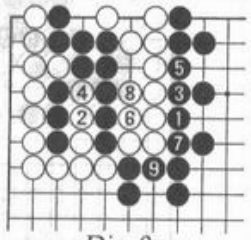

Dia. 7d

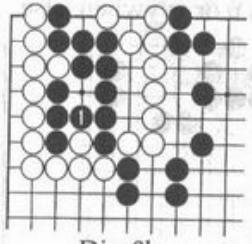

Position 8

Position 8: Black to play

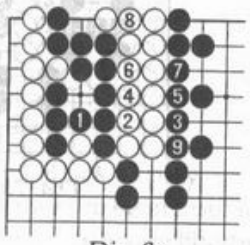
This position is very similar to the previous one.

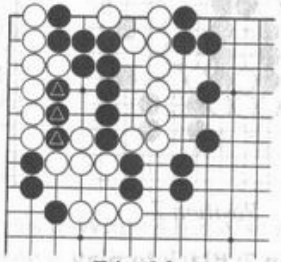
Although Black can make a seki with the sequence from 1 to 9 in *Dia. 8a*, this is not the best he can do. In this position, Black should make an eye with 1 in *Dia. 8b*. This forces White to play an approach move at 8 in *Dia. 8c*, giving Black time to fill another liberty with 9. Next, White cannot put Black in atari, so he dies. Compare this result with *Dia. 7b*.


Dia. 8a


Dia. 8b

In an actual game, the position might be more complicated, like *Dia. 8d* for example, where Black's three stones are valuable cutting stones. If White captures them, with a sequence like the one in *Dia. 8a*, he connects his groups together.


Dia. 8c


Dia. 8d

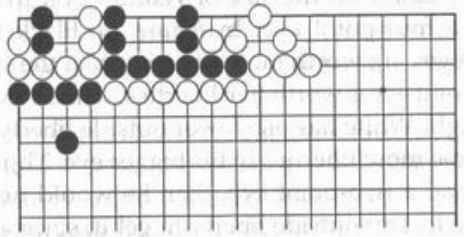
Black would like to save these three cutting stones, like in *Dia. 8c*, and cut off White's lower group, similar to *Dia. 8c*.

The timing of when White should play atari on these three stones is difficult and not something we want to discuss in detail in this intermediate-level book. It involves many factors. If White plays atari too early in the game, before the groups get surrounded, Black may give up trying to attack the lower group and switch his attention elsewhere. But if he leaves it too long, Black may get the chance to play there first and make an eye. Ideally, White wants to play it when Black is still aiming to attack the lower group and thus will answer by connecting, losing both the liberties and the chance of an eye. However, White has to be careful in playing this atari because it reduces the liberties on his lower group.

The Bigger the Better

Reading Practice

The *Reference Figure* shows a simple fight (Type 5) that you should be able to read out easily. The answer is given later in this section.


Reference Figure

Figures 1a and *1b* show a pair of similar-looking settled positions (both Type 3 fights) that you should also be able to read out easily. *Position 1* shows the situation two moves earlier. Black to play.

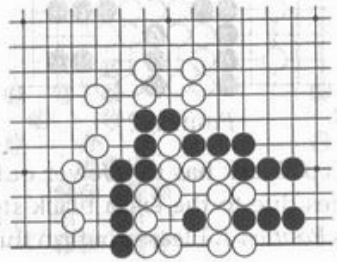


Figure 1a

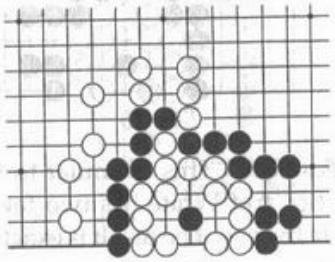
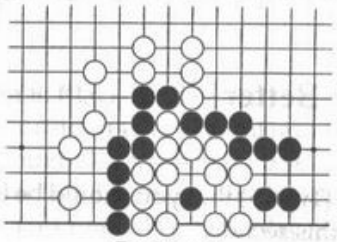


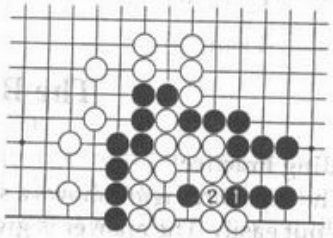
Figure 1b

Bigger Eyes Gain Liberties

Black 1 in *Dia. 1a* is correct. If White answers at 2 the result is the same as *Figure 1a*. The fight is settled: Black is ahead 7 to 6, so White is dead. If Black fills an outside liberty with 1 in *Dia. 1b*, then White 2 is a good move. The result is *Figure 1b*. The position is settled: Black is behind 7 to 8, so Black is dead. Comparing *Figures 1a* and *1b*, Black has the same number of liberties and White has two more in *Figure 1b*, even though both sides have played the same number of moves in each case.

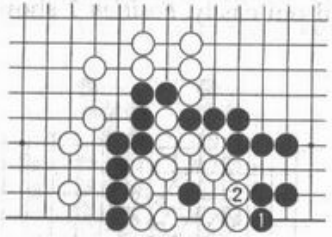


Position 1

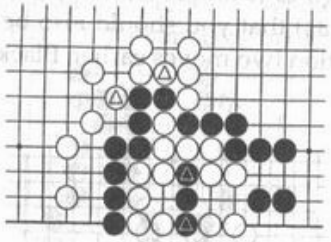


Dia. 1a

This difference arises from the size of White's eye. In *Figure 1a*, Black has reduced White to a four-point eye. In *Figure 1b*, Black has let White get a five-point eye. Big eyes are worth more liberties than the space they surround. Remember a four-point eye is worth five liberties, while a five-point eye is worth eight. So even thought White has one fewer outside liberty in *Figure 1b* than in *Figure 1a*, he has three more liberties in his bigger eye. Thus the net gain is two liberties. If White had a two-point eye, then he would not gain by making a three-point eye if he lost an outside liberty to get it, since a three-point eye has only one more liberty than a two-point eye. A three-point eye is still a small eye. The number of liberties diverges when the eye becomes big.



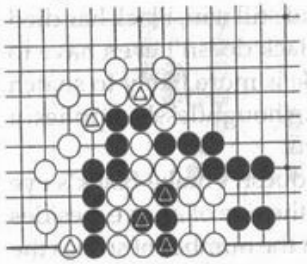
Dia. 1b



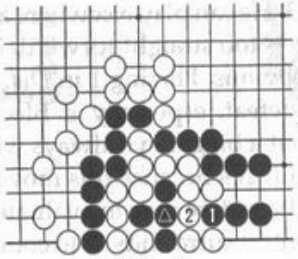
Position 2

Position 2: This is similar to *Position 1*, except Black has two fewer outside liberties and White has two fewer eye liberties due to the extra black stones inside the eye. The result is exactly the same as *Position 1*. Please confirm this for yourself.

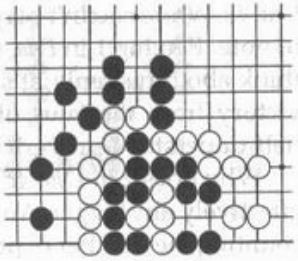
Position 3: Another White stone has been added, reducing Black's outside liberties, and another stone has been added inside White's eye. You might expect this result to be the same as *Positions 1* and *2*, but you would be wrong. Consider this position before reading on.



Position 3



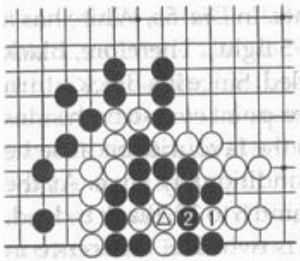
Dia. 3



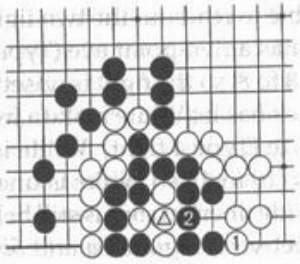
Position 4

Dia. 3: If Black plays 1, White answers at 2, capturing the four black stones. Next, Black would have to play at the triangled stone to prevent White from getting two eyes. But let's stop and count the liberties after White 2. Black has four liberties. White's empty four-point eye space is worth five liberties and he has two outside liberties, so White has a total of seven. Black is well behind. In fact, if Black does play 3 at the triangled stone, White will ignore him and play elsewhere. This is nothing at all like *Positions 1* and 2. What happened? Let's investigate.

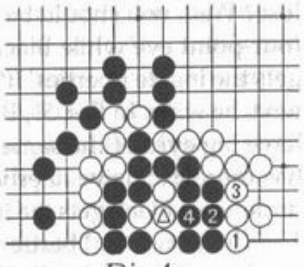
Position 4: This is similar to *Position 3*, but the colours have been reversed and White has six outside liberties. If he exchanges 1 for 2 in *Dia. 4a*, then he loses by 6 to 7. In fact, White is unconditionally dead in this position, but there's no need for him to make it easy for Black. White 1 in *Dia. 4b* doesn't work either, provided Black answers correctly, but it offers Black an opportunity to make a mistake. If Black captures at 2 in *Dia. 4b*, White is behind 6 to 7, the same as before. Black could also play 2 on one of White's outside liberties, and get the same result. The mistake is for Black to play 2 in *Dia. 4c*. This might seem to be a good move, since it seems to make a bigger eye, but in fact it falls right into White's trap.



Dia. 4a



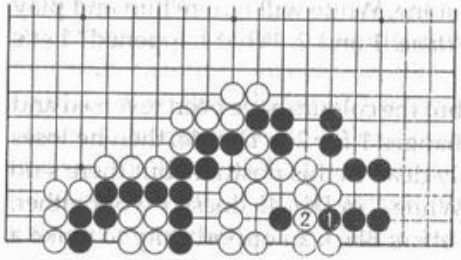
Dia. 4b



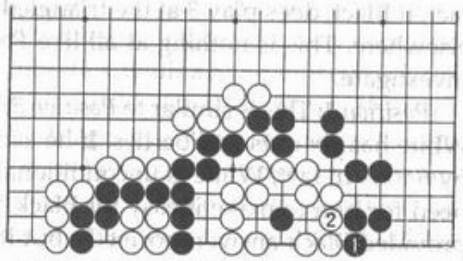
Dia. 4c

White 3 is atari so Black must capture at 4. The result is White is ahead by 6 to 5; so if he plays at the triangled stone next, he wins, as if by magic. Comparing *Dias. 4b* and *4c* we can see what happened. In *Dia. 4c*, the exchange of Black 2 for White 3 is an outright loss of two liberties for Black. In fact after Black 2 in *Dia. 4c*, White needn't play 3. He can play elsewhere and still win; Black has died in gote. Playing 1 in *Dia. 4a* is too straight-forward. Black doesn't even have to think about his reply; it's obvious. Playing 1 in *Dia. 4c* is more likely to snatch victory from the jaws of defeat, especially if Black thoughtlessly applies a half-understood proverb that a bigger eye always wins.

Why does 2 in *Dia. 4c* fail? It's because this move doesn't make Black's eye effectively any bigger. An alternative way to evaluate the size of an eye, besides counting the number of points it surrounds, is to count the number of stones the opponent must play inside it to almost fill it up. In *Dia. 1b* White will have to play four stones inside Black's eye in order to put him in atari, whereas in *Dia. 1a* he will only have to play three. In *Position 4*, however, White has already played four stones inside Black's eye, so Black 2 in *Dia. 4c* doesn't require him to add any more. It's only worthwhile making a bigger eye if it forces your opponent to add extra stones inside it.



Dia. 5a



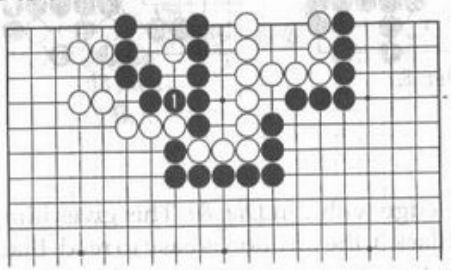
Dia. 5b

Make His Eye Smaller Than Yours.

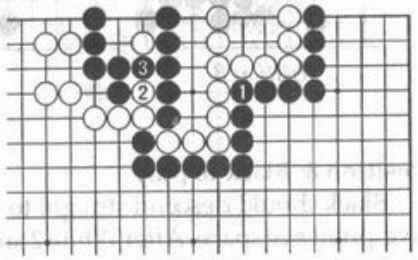
Dias. 5a and *5b*: We'll skip the starting position this time as it's easy to visualize. Black 1 in *Dia. 5a*, reducing the size of White's eye is a good move. Playing on an outside liberty at 1 in *Dia. 5b* is bad. How many liberties does it lose? Well, you should be able to read out the two fights. In *Dia. 5a*, White has a four-point eye while Black has a five-point eye (Type 5 fight). Therefore, Black gets the inside liberties. It's 8 to 8, so the fight is unsettled. Since it's Black's turn next, he wins. In *Dia. 5b*, Black has let White make a five-point eye, so both sides have big eyes of the same size (Type 4 fight). White is the favourite because he has more exclusive liberties (10 to 4), so White is unconditionally alive. As the underdog, Black gets the inside liberties, but is still behind 8 to 10. Black is dead. The difference in liberties between *Figures 5a* and *5b* is two. The difference in results is that Black kills White in one case and himself in the other.

Make Your Eye Bigger Than Your Opponent's

Dia. 6a: Black 1 maximizes the size of Black's eye. He gains three eye liberties and five inside liberties at the cost of losing one outside liberty to win the fight 15 to 6. White is dead.

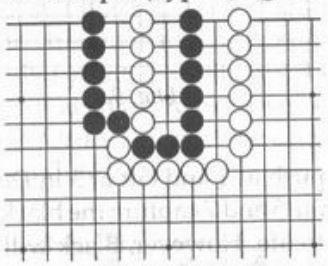


Dia. 6a

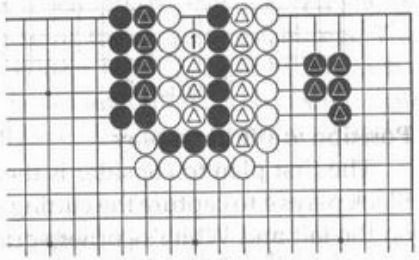


Dia. 6b

Dia. 6b: Black 1 lets White push in at 2 in sente. After Black blocks at 3, the result is seki. Neither side can kill the other. Both sides have a big eye of the same size. Black is the favourite with seven liberties to White's five, so White cannot kill Black. But White counts the inside liberties, so Black cannot kill White. It's 7 to 10 against Black. Note, however, that White's liberty count of 10 only applies to defense. White cannot use the inside liberties for attack. This can be seen more clearly in a simple (Type 2) fight where there are no eyes.

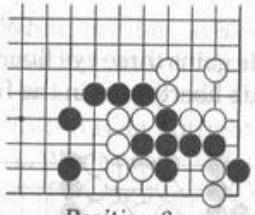


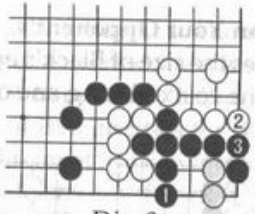
Position 7

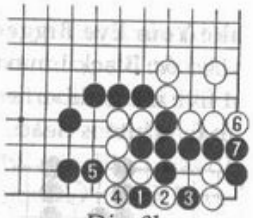


Dia. 7

Position 7: Black is the favourite because he has more outside liberties. Therefore, Black is unconditionally alive. Can Black kill White? No, he's behind 7 to 9. Even if Black plays first, White can play elsewhere once and still live in seki. Can White kill Black, since he has nine liberties to seven? Absolutely not. White's nine liberties are only for defense. As *Dia. 7* shows, by adding equal numbers of marked stones, if White misguidedly tries to kill Black, he has to play all the inside liberties. Black can calmly play elsewhere five times. Then, finally, in order to put Black into atari, White has to play himself into atari. It's hard to imagine anything more suicidal. This is why the positional assessment started with 'Black is unconditionally alive.' The only question is whether Black can kill White or White can live in seki. The situation in *Dia. 6b* is similar.

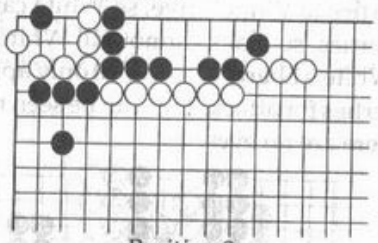

Position 8

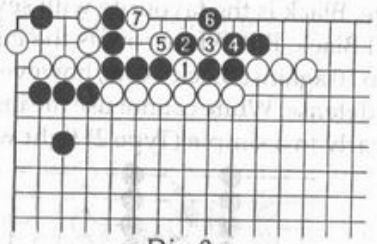

Dia. 8a


Dia. 8b
8: at 2

Position 8: Black to play

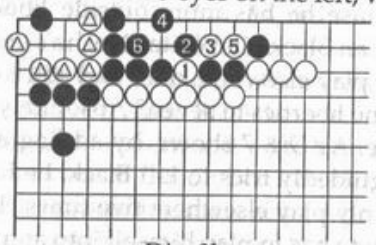
Black should descend straight to the edge with 1 in *Dia. 8a*. This gives him a five-point eye space. After White 2 and Black 3, the position is easy to read. Black is clearly ahead. Playing hane at 1 in *Dia. 8b* is a serious mistake. White's throw-in at 2 reduces the size of Black's eye, leaving Black no choice but to fight a nasty ko. He cannot connect with 5 at 2 since that would clearly leave him behind on liberties.

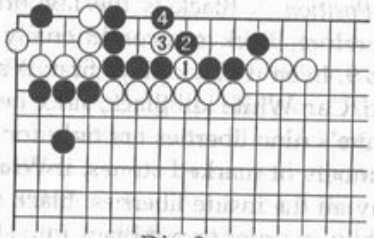

Position 9


Dia. 9a

Position 9: White to play

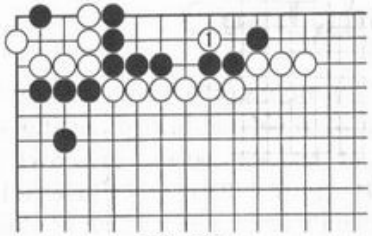
The first plan to consider is the obvious push at 1 and cut at 3 in *Dia. 9a*. If Black plays 4 to capture the cutting stone, White 5 and 7 capture the black stones on the left and White's corner springs back to life. However, Black will not be so cooperative. He will play 4 in *Dia. 9b*, giving up two stones on the right in order to make two eyes on the left, which kills the white corner stones.

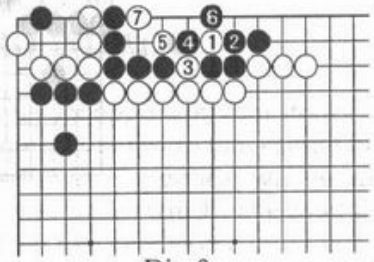

Dia. 9b


Dia. 9c

How about cutting the other side, at 3 in *Dia. 9c*? Again Black 4 is the key point. In a real game, you might think that *Dia. 9b* was a good result and not

read any deeper. However, *Dia. 9b* is not the best that White can achieve. What he needs is a little inspiration.

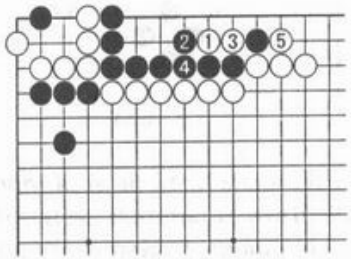

Dia. 9d

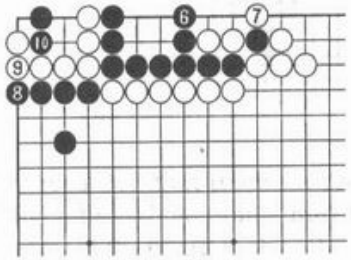

Dia. 9e

Tesuji Magic

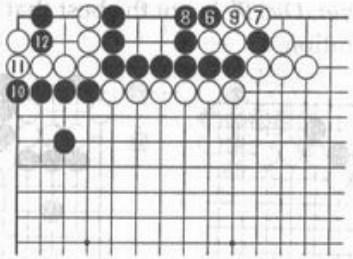
White 1 in *Dia. 9d* is a superb tesuji.

Dia. 9e: If Black connects at 2, the position transposes to *Dia. 9a*, which is just what White wants. Black's strongest reply is to block on the inside at 2 in *Dia. 9f*, but does it work? White ataris at 3, forcing Black to connect at 4. Playing White 3 at 4 instead would transpose to *Dia. 9b*, which is no good. By simply attaching at 1 without pushing through, White prevents Black from living on the left; instead it becomes a capturing race. Black 2 at 4 would give the same result after White 3 and Black 2. After 5 in *Dia. 9f*, where should Black play next? He should descend straight to the edge at 6 in *Dia. 9g*, making the biggest possible eye. This is the vital point; if White plays there, Black loses liberties rapidly. To reach a position that is easy to read, we assume the moves up to 10. This is now the same as the *Reference Figure* at the beginning of this section. It's 6 to 6 with White to play, so White wins.


Dia. 9f


Dia. 9g

Instead of 6 in *Dia. 9g*, playing atari in *Dia. 9h* loses a liberty. After White 7, Black still needs to play 8, otherwise White will throw in there. In effect, Black has exchanged 6 for 9, which is a loss of one liberty. Moves 10 to 12 have been added for easier comparison.



Dia. 9h

The point of *Position 9* is to find the tesuji and read out the various possible continuations. This includes knowing moves like Black 6 and being able to read out the final capturing race. If there were already two black stones inside White's eye in the corner, White's tesuji would fail since he would lose the capturing race. In that case *Dia. 9b* would be better than nothing.

Guidelines for Winning a Fight

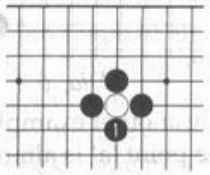
- Reduce your opponent's liberties, not your own. A throw-in is a tesuji for reducing liberties, but make sure they're not your own liberties.
- Eyes often win fights. Making an eye gives you all the inside liberties and may force your opponent to make approach moves, but it may also decrease your own liberties and it eliminates the safety net of living in seki.
- A big eye gains liberties. Make your eye as big as possible and reduce the size of your opponent's eye.

Chapter Nine
Good and Bad Shape

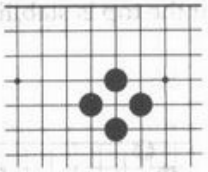
If you are going to take more territory than your opponent, your stones must work efficiently and be able to form eyes quickly. A group that cannot easily form two eyes can be attacked. In the process your opponent will be taking territory while you busily struggle to make eyes. Stones which have good shape are able to repulse an enemy attack by making two eyes in one or two moves. What is good shape and how to make it is the subject of this chapter.

Ponnuki

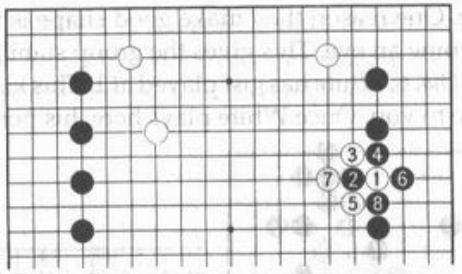
'Ponnuki' is the shape which results when one stone is captured by four stones. If Black captures one white stone with 1 in *Dia. 1*, the resulting shape in *Dia. 2* is called a ponnuki.



Dia. 1



Dia. 2



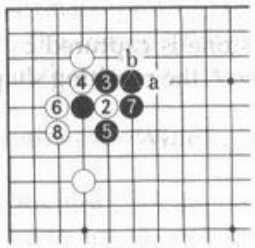
Dia. 3

Ponnuki is an ideal shape. It is so highly regarded that there's a proverb which states: 'Ponnuki is worth 30 points.' Even though 30 points may be an exaggeration, making a ponnuki facing the center of the board is almost always good. *Dia. 3* is an example. Even though Black takes profit on the left side, letting White make a ponnuki with 1 to 7 gives White the initiative in the center and at the top. This ponnuki combines beautifully with White's other three stones. In a 6-stone handicap, White would be very satisfied with this result.

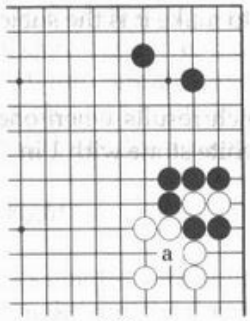
Dia. 4 (next page) shows a sequence which seems to result in a ponnuki, but in this case the result is bad for Black. The reason is the presence of the marked

stone. This stone is not really necessary; it just adds a stone to an already-strong shape. It would have been better to have played this stone elsewhere. By choosing this sequence, Black has not received full value for the five stones he has played in the upper left.

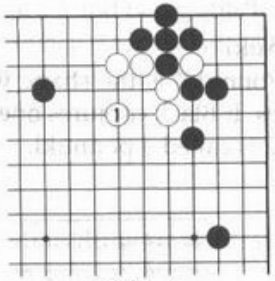
There are two criteria for shape: how efficiently the shape secures potential eyes and how effectively it strengthens the group against attack. Clearly the marked stone in *Dia. 4* is not contributing to making another eye, yet it is part of that group. If it were at 'a', at least another eye could be formed at 'b'. As it stands, it is almost useless. In the final analysis, Black has played too many stones here, so they are overconcentrated.



Dia. 4



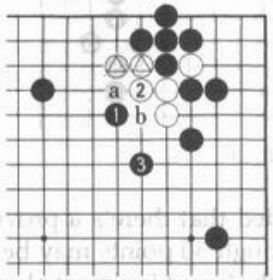
Dia. 5



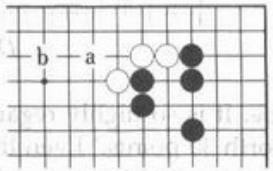
Dia. 6

The five white stones facing the center in *Dia. 5* are another example of good shape. One reason they make good shape is that the point 'a' is almost certain to become an eye. This gives the group stability.

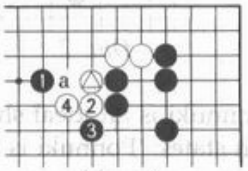
In *Dia. 6*, White has just played at 1. This kind of move should become second nature to you. Once White plays here, his position at the top is stabilized.



Dia. 7



Dia. 8



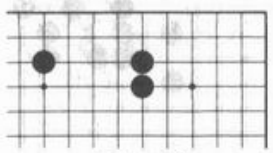
Dia. 9

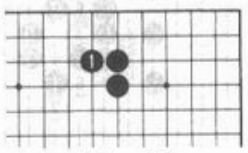
Suppose White omitted this move and played elsewhere. Black would attack with 1 in *Dia. 7*, forcing White to connect with 2. Black would then continue his attack with 3. White's stones are now a shapeless string, and it will now be difficult for them to make the necessary two eyes to live. Such stones are called 'heavy' because they are a burden to White.

Empty Triangles

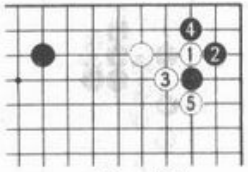
The white stones in *Dia. 7* are a typical example of bad shape. The marked stones and White 2 form an empty triangle, open at 'a'. Moreover, White 2 and his other two stones form another empty triangle, open at 'b'. Empty triangles are the epitome of bad shape. If you see an empty triangle, more often than not a bad move has been made, or a necessary move has been omitted.

In *Dia. 8*, White's three stones at the top are vulnerable and he should play another move at either 'a' or 'b' to reinforce them. If White neglects to play here, Black will attack with 1 and 3 in *Dia. 9*, forcing White to respond with 2 and 4. The marked stone, together with 2 and 4, makes an empty triangle around 'a'.


Dia. 10



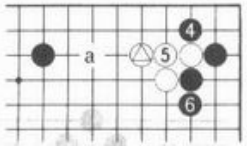
Dia. 11



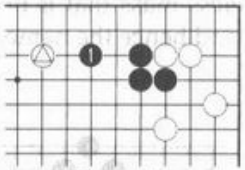
Dia. 12

Why is the shape of an empty triangle inefficient? For two stones standing side by side, a 3-space extension as in *Dia. 10* is ideal. This formation efficiently maps out territory at the top. On the other hand, extending to 1 in *Dia. 11* hardly maps out any territory.

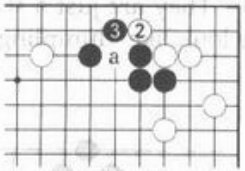
In the joseki shown in *Dia. 12*, White 5 is the correct answer to Black 4. If White answers with 5 in *Dia. 13*, the four white stones acquire an empty triangle shape . The marked stone is now a wasted move. The efficient place for this stone would be at 'a'.



Dia. 13



Dia. 14



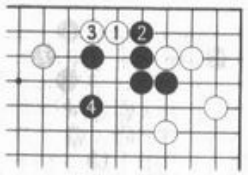
Dia. 15

A one-space extension from two stones is a bit narrow, but in close encounters it may be necessary to play tightly, so such extensions are quite common.

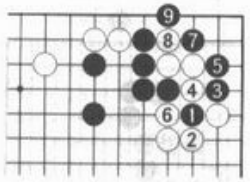
In *Dia. 14*, Black can extend only as far as 1 because of the marked white stone. This is the correct move and is the only way to make good shape here.

One reason it is good shape is that if White plays 2 in *Dia. 15*, Black replies with 3 and an eye is beginning to take shape at 'a'.

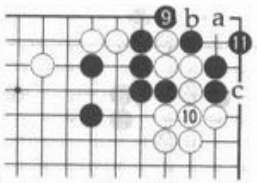
White could destroy this eye by playing at 1 in *Dia. 16* himself. Black would then block with 2 and, after White 3, escape lightly into the center with 4. Even though Black has been robbed of his eye shape at the top, the presence of his stone at 2 enables him to counterattack. Black begins his assault on White's corner with 1, 3, and 5 in *Dia. 17*. White must capture a stone with 6, after which Black squeezes with 7 and 9. After White connects with 10 in *Dia. 18*, Black plays 11 and almost has two eyes in the corner. White could reduce him to one eye by playing the sequence White 'a'–Black 'b'–White 'c', but White would then end in gote.



Dia. 16



Dia. 17

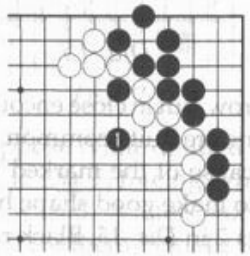


Dia. 18

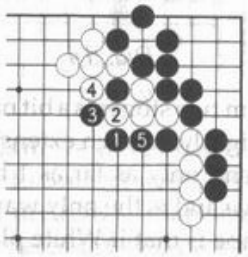
This example may be a bit advanced, but it shows that if you start out with good shape, no matter how this shape is attacked there will usually be countermeasures available for rescuing your stones. (As your experience grows, you'll get more skillful at devising these counterattacks.) In this case, White's previously impregnable territory in the corner has been devastated and his stones have been reduced to a useless clump.

Dumpling Shapes

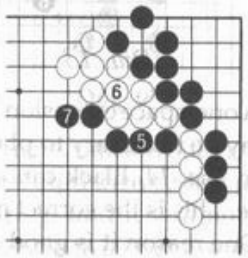
The clump of white stones on the right in *Dia. 18* is another example of bad shape. They are just a shapeless mass that is not taking territory. Shapes like these look like 'dumplings', and hence the name.



Dia. 19

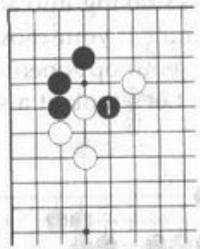


Dia. 20

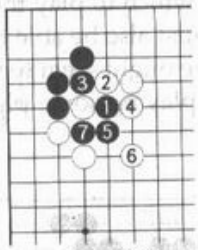


Dia. 21

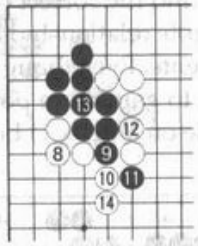
Dumpling shapes are usually created by utilizing squeeze tactics. Black 1 in *Dia. 19* sets up such a squeeze. The only way White can save his three stones is to play at 2 or 5 in *Dia. 20*. If he plays 2, Black squeezes with 3 and 5, forcing White to capture. He then has to connect at 6 in *Dia. 21*. White's stones at the top have now become an inefficient clump and are vulnerable after Black 7. In addition, the four white stones on the right are also open to an attack. For sure, Black should be able to gain some territorial advantage by attacking one of these weak white groups.



Dia. 22



Dia. 23



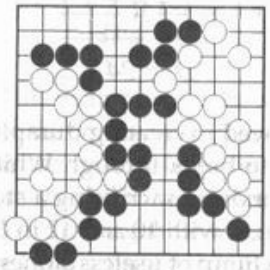
Dia. 24

Net tesujis like Black 1 in *Dia. 19* are often employed in creating dumpling shapes. *Dia. 22* gives another example. Black tries to break through White's blockade in the center by attaching at 1. White responds by sacrificing a stone and casting a net with 6 in *Dia. 23*. White then squeezes with 10 and 12 in *Dia. 24*. Black has accomplished nothing except getting a clump of useless stones. In contrast, White has formed territory on the left side and established a thick wall on the right. White's stones are working magnificently; Black's are doing nothing.

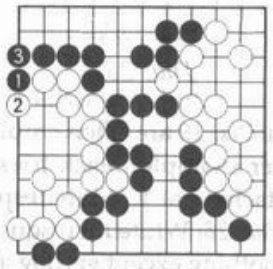
Chapter Ten
The Endgame

The endgame is the stage where the game is finally decided. By skillful endgame play you can sometimes win games in which you are behind. Moreover, skill in the endgame can give you the edge to come out victorious in close games.

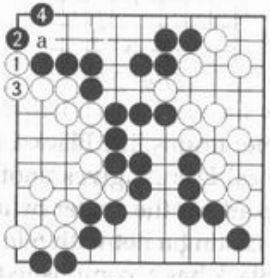
Unlike the opening or middle game, intuition is not as important. What you must strive to develop is your ability to calculate the values of endgame moves and to find the correct order in which to play these moves taking into account sente–gote relationships. You must also be able to determine if your moves are really sente. Even though a move might seem to be sente, your opponent might be able to gain more points by playing some place else. Let's look at a simple example on an 11 x 11 board.



Dia. 1



Dia. 2



Dia. 3

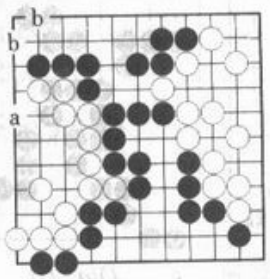
The game in *Dia. 1* is almost over, with both sides having about the same number of points (no prisoners have been taken). With the best play, Black can win by one point if he plays first, whereas if White plays first, he can win by three points.

There are five places on the board where points can still be gained. We will first calculate the value of these points and then show the order in which these moves can be made for the maximum gain.

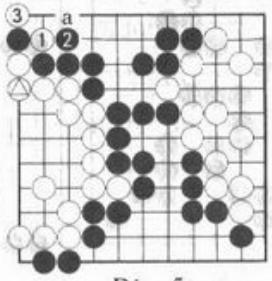
First of all, let's look at the situation in the upper left corner. If Black were to play 1 in *Dia. 2*, White would defend at 2. This move ataris the black stone at 1, so Black ends in gote after he defends at 3. Since there are no more profitable moves or viable threats by either side in this part of the board, White can play his next move some place else.

If White were to play first in this part of the board, he would play 1 in *Dia. 3*. After exchanging 2 for 3, White is threatening to cut at 'a', so Black must defend at 4 (or 'a'). Again, White can make his next move some place else.

What is the value these moves? When White played first, he gained one point at 'a' and deprived Black of the two points 'b' in *Dia. 4* for a total of three points. Similarly, when Black played first, he gained two points at 'b' and deprived White of one point at 'a', so the value of a move here is three points. However, Black ends in gote if he plays first, while White ends in sente if he plays first. Therefore, it is more profitable for White to play here than for Black.

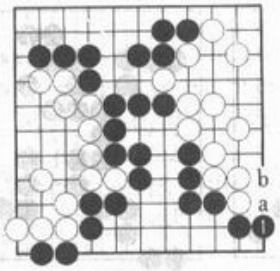


Dia. 4

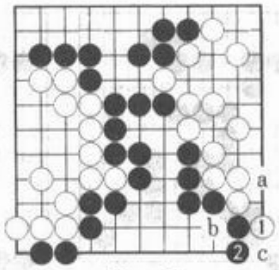


Dia. 5

Is playing the marked stone in *Dia. 5* (White 3 in *Dia. 3*) really sente? If Black doesn't defend, White can capture a stone with 1 and 3, gaining one point. In addition, Black loses the points at 1, 3, 2, and 'a' that were his territory in *Dia. 3*. Black's total loss is five points, but White ends in gote. Consequently, Black can ignore White 3 in *Dia. 3* only if he has a move worth five points or more. In that case, White 3 would not be sente.



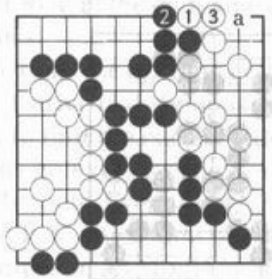
Dia. 6

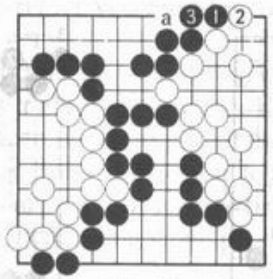


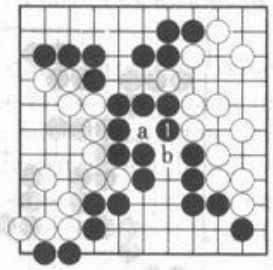
Dia. 7

Black 1 in *Dia. 6* is another valuable endgame move. It also threatens another move at 'a', depriving White of a point at 'b'. On the other hand, White 1 in *Dia. 7* is also the point that White wants to play here. With this move White takes away three points, 'b', 2, and 'c', that Black got when he played 1 in *Dia. 6*. In addition, White 1 ensures that White will get the point 'a' as part of his territory. We conclude that playing 1 is worth more than 3 points. However, White 1 in *Dia. 7* is sente since Black must defend at 2 (without 2, White 'b' would be an intolerable loss for Black), whereas Black 1 in *Dia. 6* must be considered gote, since it threatens to reduce White's territory by only one point.

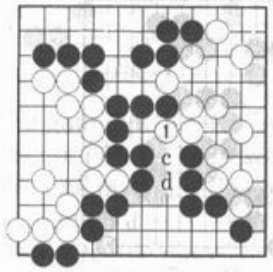
In the upper right corner, White can gain two points in gote with 1 and 3 in *Dia. 8*; Black can do likewise with 1 and 3 in *Dia. 9*. In other words, by playing 1 and 3 in *Dia. 8*, White gains the point 'a' and deprives Black of the point 2, while Black 1 and 3 in *Dia. 9* gain Black the point 'a' and deprive White of the point 2. Thus, the number of point at stake here is two.

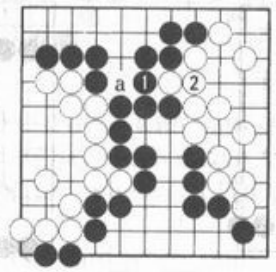

Dia. 8

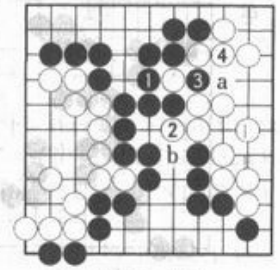

Dia. 9


Dia. 10

Black 1 in *Dia. 10* also gains the two points 'a' and 'b', but in gote, while White 1 in *Dia. 11* deprives Black of these two points and at the same time threatens 'c', a move which would deprive Black of another point at 'd'.


Dia. 11


Dia. 12

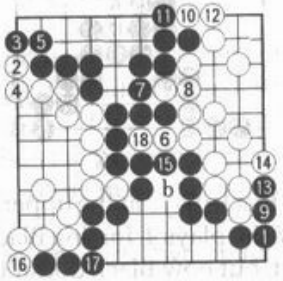

Dia. 13

Finally, Black 1 in *Dia. 12* gains one point at 'a' in sente. White must answer at 2. If White were to ignore 1 and play 2 in *Dia. 13*, Black would capture a stone with 3 (one point), forcing White to connect at 4 and depriving him of a point at 'a' (two more points) for a total of three points. In addition, he can take another point from White by playing at 'a' or defend a point by blocking at 'b'.

In summary, here are the values of the various endgame moves in *Dia. 1* for both Black and White:

	Black	White
lower right corner	3 points in gote, threatening one more point	3 points in sente
upper left corner	3 points in gote	3 points in sente
center	2 points in gote	2 points in gote, threatening one more point
upper right corner	2 points in gote	2 points in gote
top center	1 point in sente	1 point in gote

Having made the above calculations let's play out the final moves of this game.


Dia. 14

Dia. 14 (Black plays first; with best play he wins by one point)

Comparing the lower right corner with the upper left corner, it is bigger for Black to play at 1 than at 4, since he threatens to gain an additional point when he plays at 9. Therefore, Black 1, worth three points, is the correct first move.

Next, White takes the other three-point move in the upper left corner with 2 and 4. Black defends at 5 in gote, since none of the other moves are worth the 5-point loss in *Dia. 5*.

The remaining moves are all worth two points or less, but since White 6 threatens to play at 15, it has the most value.

Black 7 is worth one point in sente. The threat is too big (three points) to be ignored at this late stage.

Black 9 must be played next, after which White takes the last two-point move at the top with 10 and 12.

Finally, Black takes another point at 13 in sente, enabling him to get the last point at 'b' with 15.

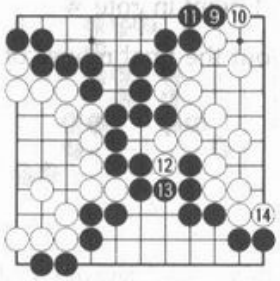
The neutral points are filled with the sequence to White 18. The score is:

Black: 27 points; White: 26 points. Black wins by 1 point.

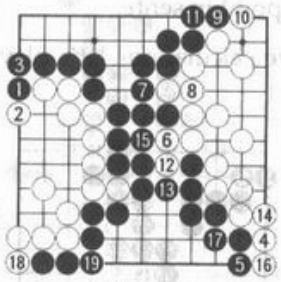
Black 9 in *Dia. 14* is essential. It is worth only one point, but it threatens to take another point by playing 13. Moreover, Black 13 is threatening to destroy another three points, so White 14 cannot be omitted. This enables Black to play the last endgame point of 15.

Suppose Black plays 9 and 11 at the top right in *Dia. 15*, gaining two points in gote. White takes a point with 12 in sente and then takes the last endgame point with 14 (worth two points). The score:

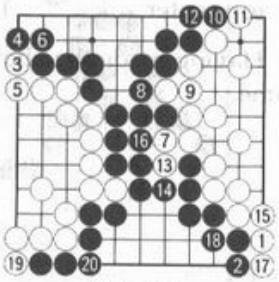
Black: 27 points; White: 27 points. A draw!



Dia. 15



Dia. 16



Dia. 17

Dia. 16 shows the result if Black plays in the upper left corner first. Black ends in gote when he plays 3, so White plays 4, forcing Black to respond with 5. White 6 and Black 7 are played next, but now Black doesn't have any profitable move in the lower right corner as in *Dia. 14*, so he takes two points at the top in gote with 9 and 11. Finally, White reduces Black by one point with 12. After all the neutral points and the necessary defensive moves to Black 19 are played, the final score is:

Black: 26 points; White: 26 points. A draw!

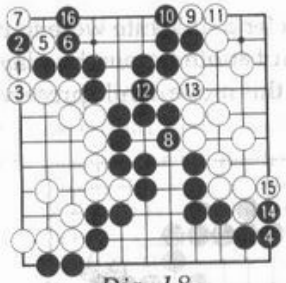
Let's look at this endgame when it is White's turn.

Dia. 17 (White plays first; with best play he wins by 3 points)

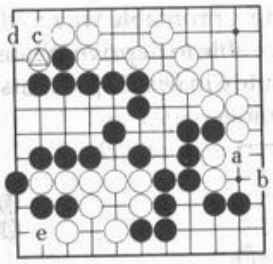
White plays his two sente sequences in the lower right and in the upper left. The remaining moves are as before. The final score:

Black: 24 points; White: 27 points. White wins by 3 points.

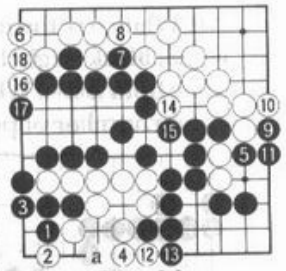
It is instructive to consider the effect of changing the order of moves as in *Dia. 18*. After White 3, Black doesn't defend at 5 but plays 4 in the lower right corner (worth three points) instead. White takes the black stone at 2 with 5 and 7, reducing Black's area at the top left by five points. Black 8 is worth an additional two points for Black. Therefore, Black's loss in the upper left corner is balanced by his gain in the lower right and center. After the sequence to 16, Black has 25 points and White has 28 points. Again White wins by 3 points.



Dia. 18



Dia. 19



Dia. 20

Dia. 19 is another example on an 11x11 board. There are three places where large gains can be made: the lower right, the top left, and the lower left.

The biggest place to play, with respect to the number of points to be gained, is the lower right. Black 'a' or White 'b' is worth at least nine points. However, both moves are gote.

The top left is worth eight points. Black can cut at 'c', capturing the marked stone. White, on the other hand, would like to defend at 'd'. Again, both of these moves are gote.

In the lower left, 'e' is the vital point for Black and the point to the left of 'e' is the vital point for White. These moves is worth three points in sente for the side playing here first.

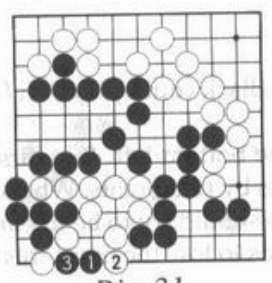
All the remaining moves are worth two points or less.

Dia. 20 (Black plays first; with best play the result is a draw)

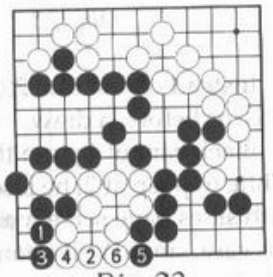
Even though it's worth only three points, turning at 1 is the most important move on the board. It is sente because it threatens to kill the white group. White 2 forces Black to connect at 3. *Dia. 21* shows how this group dies if White doesn't answer 3 with 4: the point 3 becomes a false eye. If White were to make an eye with 2 in *Dia. 22*, Black could play 3 in sente for an additional four points as well as gaining another point on the right with 5, again in sente. By playing 2 in *Dia. 20*, White can make a second eye for his group with 4 instead of 'a'. Later, White 12 is sente reducing Black's territory at the bottom by one point.

In absolute terms, capturing two stones with Black 5 is the biggest move, being worth 11 points in gote.

White 6 is the last big move, being worth eight points. After this, there are only two-point and one-point moves remaining.

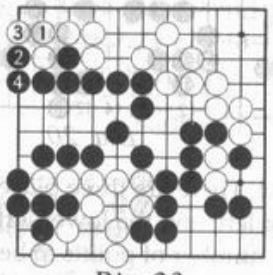


Dia. 21

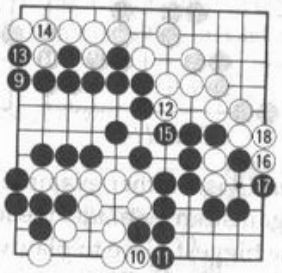


Dia. 22

Notice that White 6 is the most profitable way to defend. If White were to play at 1 in *Dia. 23*, Black might be able to deprive White of another point by playing the sequence from 2 to 4. White 6 in *Dia. 20* prevents this move, while preserving the maximum number of points.



Dia. 23



Dia. 24

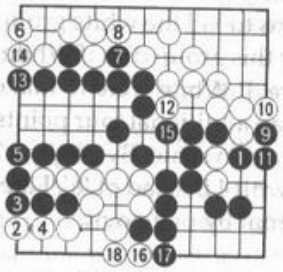
Black 7 in *Dia. 20* reduces White's territory by one point in sente.

Black 9 and 11 are worth two points in gote.

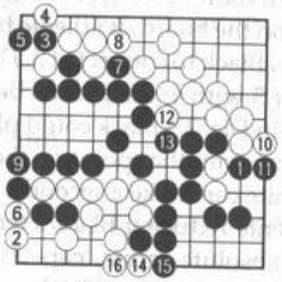
White 12 and 14 each gain one point in sente.

Finally, White 16 reduces Black's territory by one point, but since this move is gote, White saves it for last. The game is over and only the neutral points are left to be filled. The result:

Black: 26 points; White: 26 points. A draw!



Dia. 25

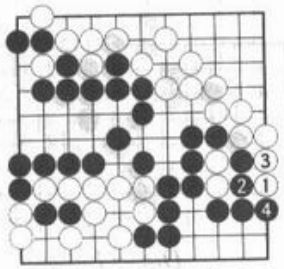


Dia. 26

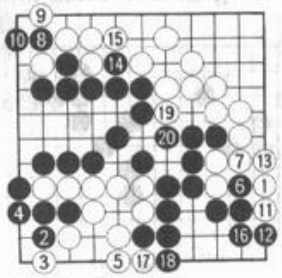
Instead of 9 in *Dia. 20*, Black could play 9 in *Dia. 24*. The result up to White 18 is, as before, a draw.

Black cannot ignore the bottom left. If he first plays 1 in *Dia. 25*, allowing White to peep at 2, he loses by two points. Whenever there is a situation where both sides have sente, you should try to be the first to play the sente moves. In this case, since White stands to lose the most, this sente move should be Black's privilege.

Even if Black plays 1 on the right and 3 on the left in *Dia. 26*, he still loses, as the sequence to White 16 demonstrates. Note White 10. This is a tesuji which helps White retain sente for a gain of one point. If Black neglected to defend at 11, White would play 1 in *Dia. 27*. The sequence to 4 results in a gain of three points in sente for White. In *Dia. 26*, White wins by 1 point.



Dia. 27



Dia. 28

Dia. 28 (White plays first; with best play White wins by 3 points)

If it is White's turn, playing at 1 is the most profitable point. (If White 1 is played to the left of 2, White would win by the same margin.) Up to Black 10 the order of moves is as before, but now White has the endgame sequence from 11 to 13 which reduces Black's lower right corner by two points. The final score is:

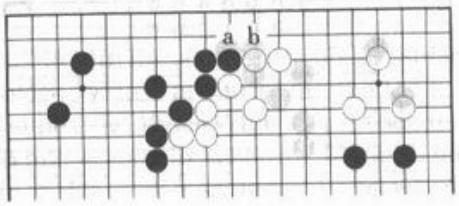
Black: 21 points; White: 24 points. White wins by 3 points.

Endgame Calculations and Endgame Tesujis

In this section we will look at a few simple endgame positions, evaluate the number of points that can be gained by playing these sequences, then show similar positions in which you can maximize your gain by playing a tesuji.

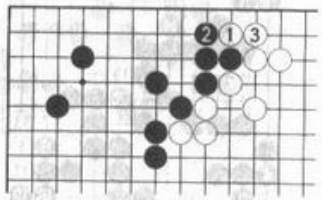
Ten Points on the Second Line

The position shown in *Dia. 29* is a basic endgame position. Whichever side plays here first will gain ten points in gote.

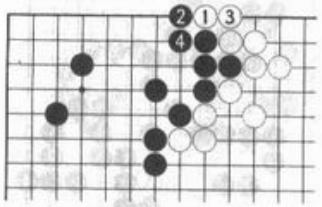


Dia. 29

White 'a' or Black 'b' is the standard endgame move. *Dia. 30* shows the endgame sequence when White moves first. He plays 1, forcing Black to block at 2, then connects at 3. Although White ends in gote, he can later play 1 and 3 in *Dia. 31*, ending in sente — Black must defend at 4. On the other hand, Black ends in gote if he plays 1 and 3 in *Dia. 32*, so the sequence in *Dia. 31* can be considered White's privilege. Therefore, in calculating the value of moves in this position, this gain is credited to White.

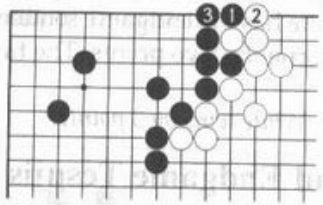


Dia. 30

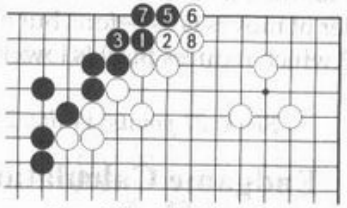


Dia. 31

The position is effectively symmetrical, so Black can play a similar sequence, as shown in *Dia. 33*. Later, Black 5 and 7 are his privilege. Black ends in sente when White plays 8.

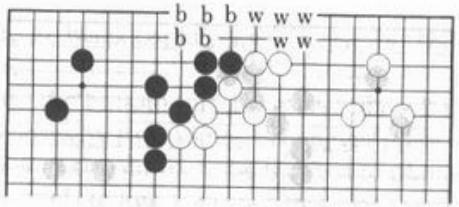


Dia. 32



Dia. 33 4: elsewhere

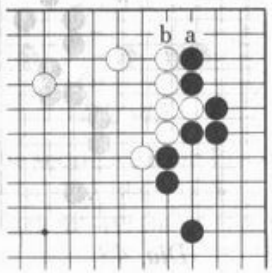
Looking at *Dia. 34*, we can see that the side which initiates this sequence will gain ten points in gote. When White begins the sequence in *Dia. 30*, the five points marked 'w' are the points he gains and the five points marked 'b' are the points he takes away from Black. Similarly, if Black starts the sequence, as in *Dia. 33*, he gains the five points marked 'b' and deprives White of the five points marked 'w'. Thus, a move here is worth ten points for either side.



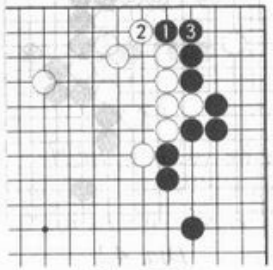
Dia. 34

Tesujis to Keep Sente

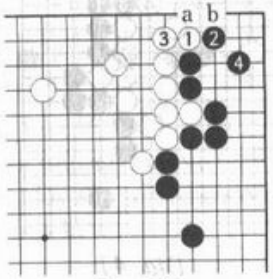
In the position in *Dia. 35*, we might conclude from the above discussion that White 'a' or Black 'b' would be the standard endgame move. If Black were to play 1 in *Dia. 36*, White would answer at 2, and Black would finally have to play 3 in gote.



Dia. 35



Dia. 36

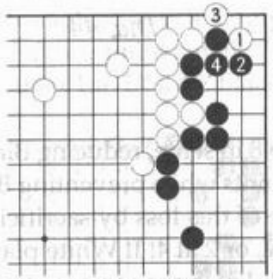


Dia. 37

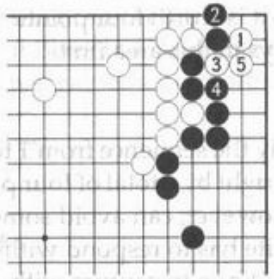
If White were to initiate the action here, he would play 1 and 3 in *Dia. 37*, after which Black would be strongly inclined to defend at 4. If Black neglected to defend, White could clamp with 1 in *Dia. 38*; after the sequence to Black 4, White gains another six points in sente.

Resisting the clamp with 2 in *Dia. 39* is unreasonable. White ataris with 3 and connects with 5. Black's territory in the corner has been wiped out.

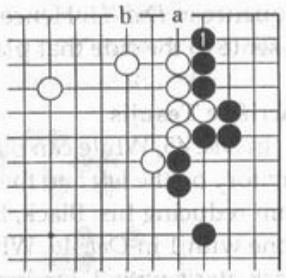
As you can see, the endgame situation in *Dia. 35* seems to favor White. The ordinary endgame moves initiated by Black in *Dia. 36* end in gote, whereas White's moves in *Dia. 37* end with his sente.



Dia. 38



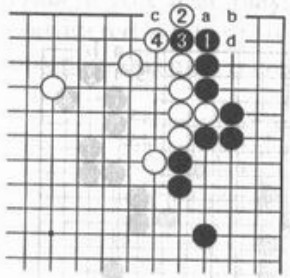
Dia. 39



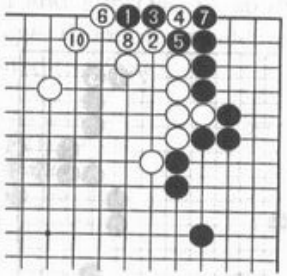
Dia. 40

Black, however, can turn the situation to his advantage by playing 1 in *Dia. 40*. White has to block White's advance into the top by jumping to 'a'. If he doesn't, Black will slide to 'b'. When White stops Black at 2 in *Dia. 41* (next page), the sequence to White 6 ends in sente for Black. Later the sequence White 'a'–Black 'b'–White 'c'–Black 'd' is sente for White, whereas Black 'a' is gote, so playing here is White's privilege.

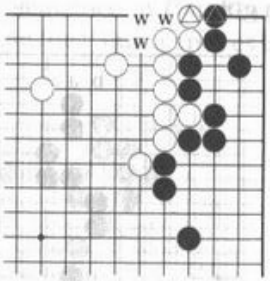
Black 1 in *Dia. 42* is known as the 'monkey jump'. The correct way to defend against it in this position is the sequence to 8. Comparing *Dias. 41* and *42*, you can see that Black has gained seven points in sente.



Dia. 41

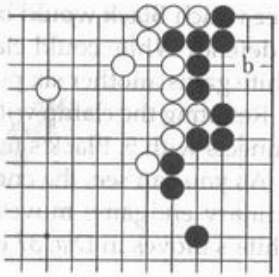


Dia. 42
9: at 4



Dia. 43

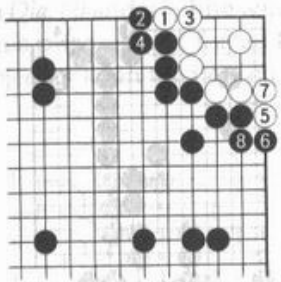
How big is Black 1 in *Dia. 41*? If White plays the sequence in *Dia. 37*, there is a 50–50 chance Black will play 'a' or White will play 'b', so for the sake of argument we assume the black and white marked stones in *Dia. 43* as the end result. Comparing *Dias. 43* and *44*, we see that White gains the three points marked 'w' when he initiates the sequence in *Dia. 37*. On the other hand, Black gains the point marked 'b' when he initiates the sequence in *Dia. 41*. Hence, it is worth four points in sente to the side that plays in this area first.



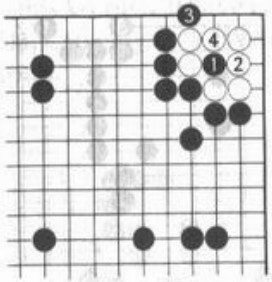
Dia. 44

Sacrifice Tesujis

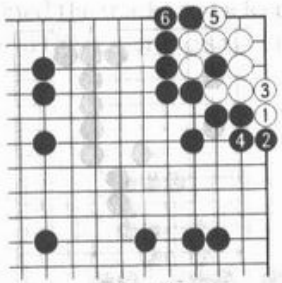
In *Dia. 45*, White can play the sequence from 1 to 8 in sente, reducing Black's territory on the left and the right by a total of four points while preventing Black from reducing his. Black, however, can avoid some of this loss by sacrificing a stone with 1 in *Dia. 46*. White has to respond with 2, or 2 at 4. If White plays 2, Black ataris with 3, forcing White to capture with 4. Later, we can assume that the sequence from White 1 to Black 6 in *Dia. 47* will be played by White, since it is sente for him. Comparing *Dias. 45* and *47*, we see that White's territory in the corner in *Dia. 45* is eight points, but in *Dia. 47* it is only six points (including the captured stone), two points less. Moreover, in *Dia. 45*, Black was forced to play on the points 2 and 4, but these points are vacant in *Dia. 47*, so Black's territory is increased by two points. Therefore, the moves 1 and 3 in *Dia. 46* are worth four points in sente for Black.



Dia. 45

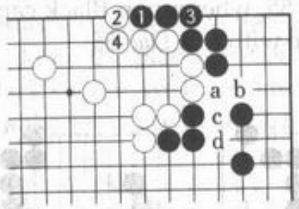


Dia. 46

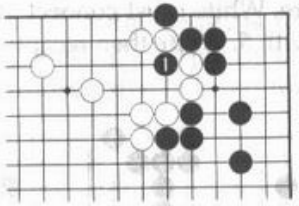


Dia. 47

The sequence from Black 1 to White 4 in *Dia. 48* is an unimaginative way for Black to play. Black ends in sente, but later White can play the sequence White 'a'–Black 'b'–White 'c'–Black 'd' for a gain of three points in sente.

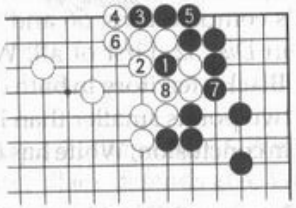


Dia. 48

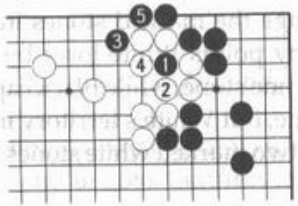


Dia. 49

The correct move for Black is to cut at 1 in *Dia. 49*. White 2 in *Dia. 50* is the correct response. Next, Black plays 3 and 5 at the top, then ataris with 7, forcing White to capture with 8. Comparing *Dias. 48* and *50*, not only is White's territory on the left one point smaller but Black has been able to play 7 in sente. Because of his cut at 1 in *Dia. 49*, Black has gained four more points than in *Dia. 48*.

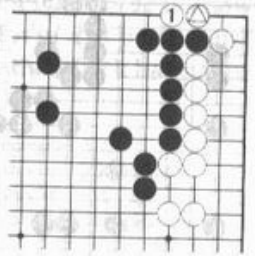


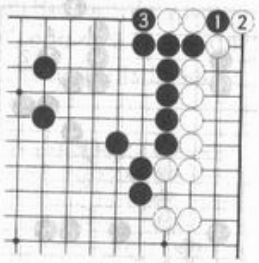
Dia. 50

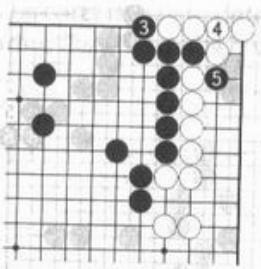


Dia. 51

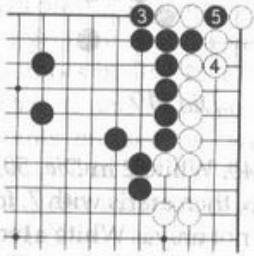
If White thinks that he can gain some advantage by playing 2 in *Dia. 51*, he will be in for a rude shock when Black attaches at 3. White can only capture with 4, after which Black links up with 5, greatly reducing White's territory at the top.

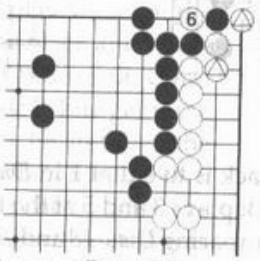

Dia. 52

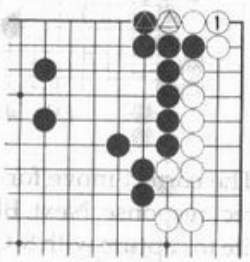

Dia. 53


Dia. 54

In *Dia. 52*, White has played the marked stone. Near the end of the game White plays 1, expecting to gain a point. But if Black sacrifices a stone with 1 in *Dia. 53*, he can gain two points. After Black 3, White can't connect with 4 in *Dia. 54*. If he does, he finds himself short of liberties when Black ataris with 5. Therefore, White must connect at 4 in *Dia. 55*, whereupon Black captures two stones with 5. White then recaptures a stone with 6 in *Dia. 56*.


Dia. 55

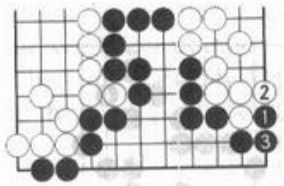

Dia. 56

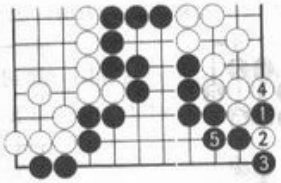

Dia. 57

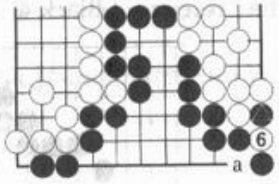
The correct move for White is to connect at 1 in *Dia. 57*. Later, he will be able to exchange the marked stones in sente. Let's compare *Dias. 56* and *57* to see how many points White loses by playing 1 in *Dia. 52*. First of all, White has captured one stone, while Black captures two. Black's territory in both diagrams is the same, but White's territory in *Dia. 56* is two points smaller than in *Dia. 57* (note the two marked white stones in *Dia. 56*). In conclusion, White has lost three points.

Let's go back and look at the 11x11 example game in *Dia. 14* page 135. Some readers might have wondered why Black didn't play 1 in *Dia. 58*. Wouldn't this have gained another point? If White replied with 2, it certainly would have, but White would throw in a stone with 2 in *Dia. 59* and eventually Black would have to play at 5. In territory, Black has two points less than in *Dia. 14*. However, he has captured a stone, so he has lost only one point. But White can start a ko with

6 in *Dia. 60* and if White wins this ko, he will have gained the marked black stone as his prisoner and forced Black to play at 'a'. We will have more to say on the subject of ko in the next chapter.

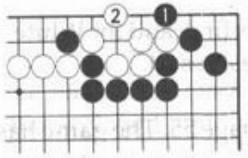

Dia. 58

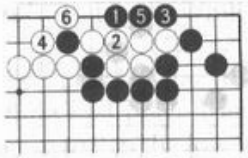

Dia. 59

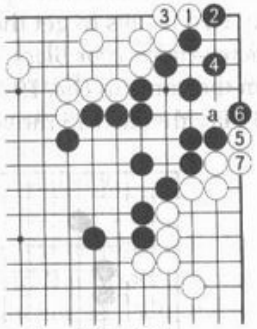

Dia. 60

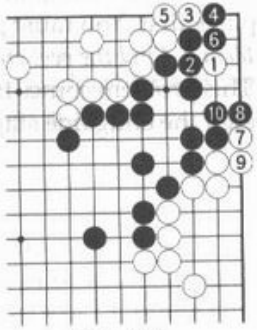
Placement Tesujis

Placement tesujis are also useful in gaining points in the endgame. Black 1 in *Dia. 61* may seem like a profitable endgame move, but actually it is quite slack. Better would be the placement of Black 1 in *Dia. 62*. The sequence to White 6 ends in Black's sente. We leave it to the reader to verify that *Dia. 62* is four points better than the sequence in *Dia. 61*.


Dia. 61


Dia. 62


Dia. 63

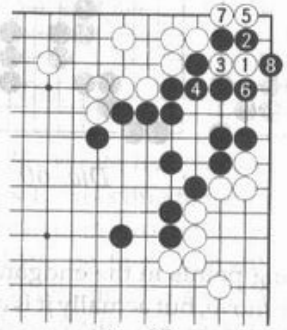

Dia. 64

In the position in *Dia. 63*, White plays ordinary endgame moves with 1 and 3, but after Black defends at 4, White 5 and 7 end in gote. Confirm for yourself that cutting at 'a' cannot capture Black's stone at 6. By playing a placement tesuji, however, White can play both these endgame sequences in sente.

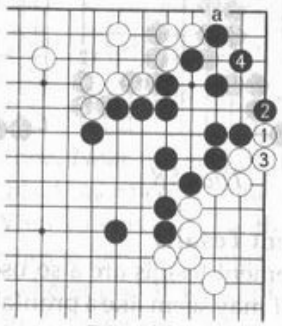
White 1 in *Dia. 64* is the tesuji. If Black defends at 2, White plays 3 and 5 in sente followed by 7 and 9, also in sente. Because of the presence of White 1, Black must defend with 10. Confirm for yourself that if Black omits 10, White can capture the stone at 8.

Black might play 2 in *Dia. 65* in response to White 1, but White has the tesuji of 5. The sequence to Black 8 follows. Compare *Dias. 65* and *64*, and you will see that *Dia. 65* is one point worse for Black than *Dia. 64*.

Starting from the right with 1 and 3 in *Dia. 66* gives the same result as *Dia. 63*. The endgame sequence starting with White 'a' ends in gote for White because of the presence of Black 4.



Dia. 65



Dia. 66

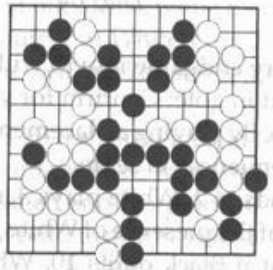
Endgame Problems

Problem 1. An 11 x 11 Board Problem

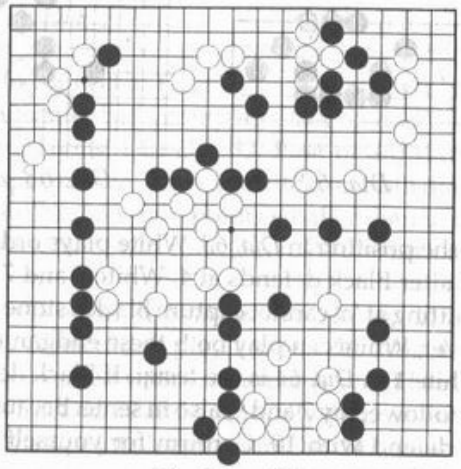
Find the best endgame moves for Black when plays first, and for White, when he plays first. You must play two tesujis to get the best result.

Problem 2. Find the best endgame sequence for Black

This problem comes from the game in *Dia. 19* on page 55. The game has now entered the endgame stage. Play the next 15 moves.



Problem 1



Problem 2

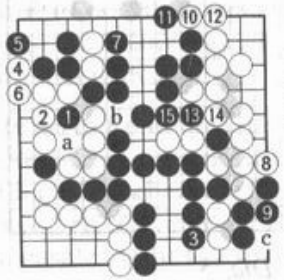
Answer to Problem 1

Dia. 1 (Black plays first; with best play Black wins by 2 points)

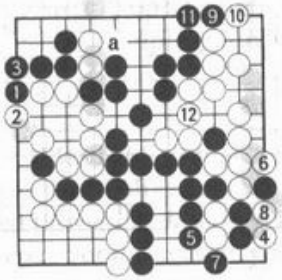
Cutting at 1 is a tesuji worth one point because White will eventually have to come back and play at 'a' when Black ataris at 'b'. White 2 is the only answer. If White 2 at 'a', Black will play 6 in sente.

Black 3 is the next biggest move. If Black omits it, White can play at 'c', a tesuji worth five points.

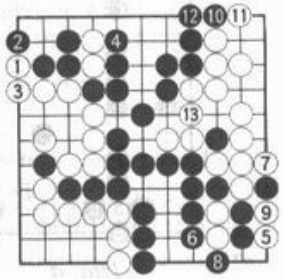
The sequence from White 4 to Black 7 is worth three points in sente for White. With the sequence to 15, Black wins by two points.



Dia. 1



Dia. 2



Dia. 3

Dia. 2 (If Black doesn't make the best moves, the result is a draw)

If Black plays 1 and 3, he gains three points in gote (he doesn't have to play at 'a'). However, when White attaches at 4 in the lower right corner, he gains five points with the sequence to 8.

The result up to White 12 is a draw.

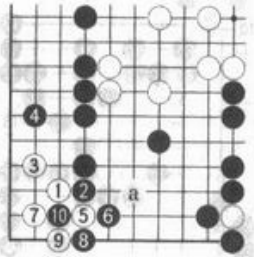
Dia. 3 (White plays first; with best play White wins by 4 points)

White first plays 1 and 3 in the upper left corner in sente, then plays the sequence to 9 in the lower right corner. With the sequence to 13, White wins by four points.

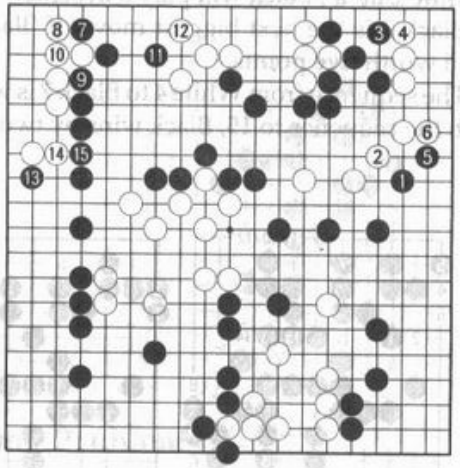
Answer to Problem 2

When White defended his center group by playing 25 in *Dia. 19* on page 55, the middle game came to an end. All of Black's groups are safe and he is well ahead in territory. The only chance White has for making mischief is invading the lower left corner on the 3–3 point. However, for Black to defend here would reveal a negative attitude. Such a move would have only one meaning: defense. If White invades at 1, the proper strategy is to let him live in the corner. The

sequence to White 9 in *Dia. 4* is one possibility. White can live in the corner only if he wins the ko. If Black doesn't want to fight the ko, he could simply end it by playing at 'a', since he is ahead anyway. The important thing is to keep White confined to the corner.



Dia. 4



Dia. 5

The proper way to play would be to follow the sequence to Black 15 in *Dia. 5*. All of Black's moves expand his territory while threatening White's positions. Black 1 expands the right side while threatening to capture the two white stones to the left and make a big territory. Black 3 defends the stone two spaces to the left while threatening to invade White's corner. Black 5 threatens the life of the white group in the upper right; it also expands Black's territory. Black 7 and 9 reduce White's corner territory in the top left corner and prepare for 11, which forces White to defend his group at the top with 12. Finally, Black 13 prevents a white intrusion into the left side. Next, White would invade the lower left corner with 16.

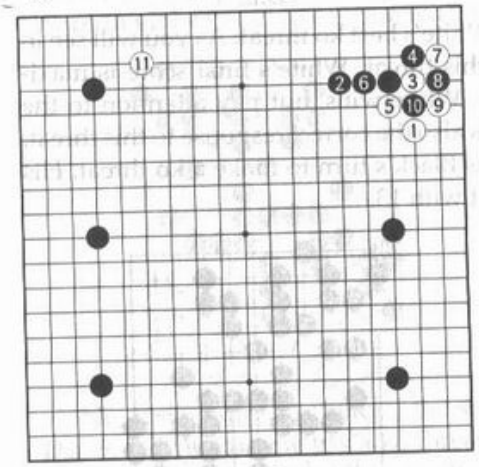
Skill in the endgame is important if you are going to become a well-rounded player. *The Endgame* by Ogawa and Davies and *Get Strong at the Endgame* are two books with which you can continue your study of the endgame. The latter is especially recommended. It contains 70 small board problems to give you a realistic environment in which to practice your endgame play. There is also an extensive section on endgame tesujis and another on the value of standard endgame sequences.

Chapter Eleven
Ko Fights

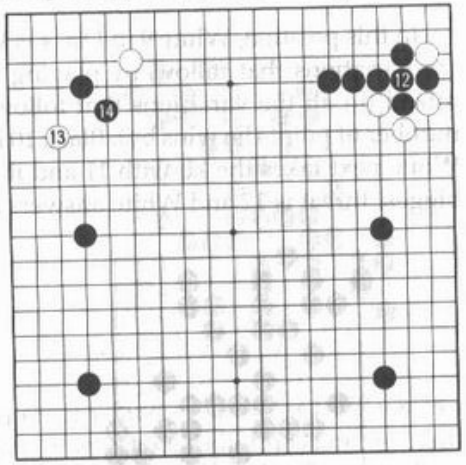
Fighting a ko is perhaps the most difficult technique of go to master. Being able correctly fight a ko is a sign of real strength. Not only must you calculate how many points the ko itself is worth, you must also assess the values of your ko threats as well as your opponent's ko threats. In addition, you must determine which side has more ko threats before you embark on creating a ko or fighting a ko that your opponent has created. Sometimes it may be possible to prevent a ko from occurring, but at other times it is better to fight the ko. You must also know the proper time to give up a ko fight; an example of this is given on page 152. Below we give you a few simple guidelines that will help you when confronted with a ko.

There is No Ko in the Opening.

One of the first principles of ko fights is that it is futile to start a ko in the opening. This is because there are no sufficiently large ko threats for either side at this stage. You may get two moves elsewhere on the board, but this will not compensate for the loss of the ko. For this reason, you should never be afraid to fight a ko that your opponent starts in the opening. *Dia. 1* is an example.



Dia. 1



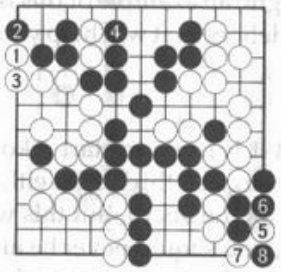
Dia. 2

When Black ataris at 8, White also ataris at 9, inviting Black to start a ko at 10. White plays 11, but this is not a big enough threat and Black connects at 12 in *Dia. 2*. If White follows up his approach move with another approach at 13, Black simply moves out into the center with 14. Black has secured the upper right corner and White's three stones on the outside are almost useless.

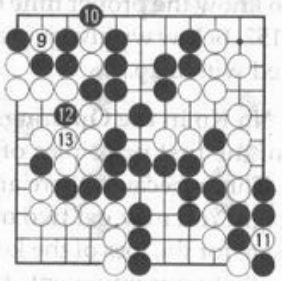
Maximizing the Number of Your Ko Threats

In a ko fight, the side having the most ko threats should win the ko. Therefore, it is important to make sure that you get as many ko threats as possible from a position. Let's look at an example of a ko fight from an actual game.

The example comes from *Problem 1* on page 146. In the solution to that problem, we showed that when White plays first he should win by four points with best play by both sides. Since Black is behind, he would like to throw the game into confusion. One way to do this would be by starting a ko fight. The moves to White 5 in *Dia.* 3 are the same as before, but Black plays 6, hoping to turn the entire lower right corner into his territory. White cannot avoid a ko. His only move is 7 and the ko begins when Black captures with 8.

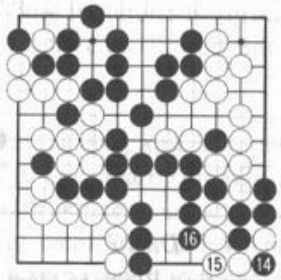


Dia. 3

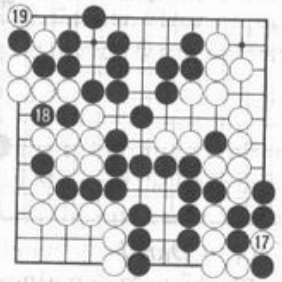


Dia. 4

In this position, White 9 in *Dia. 4* is White's best ko threat. As you will see in the variations that follow, by playing this threat, White's final score is maximized (in all the variations that follow, White wins, but pay attention to the number of points he wins by). Black 10 is also the correct response to this threat. White next takes the ko with 11 and it is Black's turn to make a ko threat. His biggest threat is 12 and White answers it with 13.



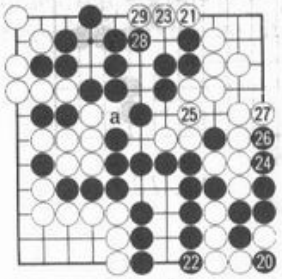
Dia. 5



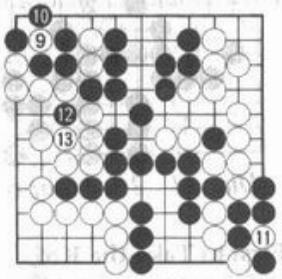
Dia. 6

The ko continues when Black retakes with 14 in *Dia. 5*. White 15 is White's last sufficiently big ko threat. This move increases the liberties of White's group, so Black must reply with 16, after which White retakes the ko with 17 in *Dia. 6*.

Black's biggest ko threat is 18, but in response to this threat, White takes a stone with 19 in the top left corner for a profit of five points. This is part of the reason why White 9 in *Dia. 4* was the best ko threat. Black takes the ko with 20 in *Dia. 7*. White makes another threat at 21, but it is best for Black to end the ko by capturing with 22. With the sequence to White 29, the game is over. White wins by 8 points.



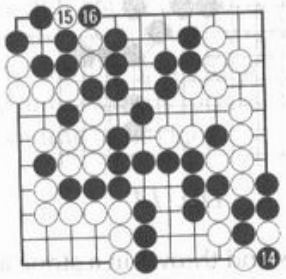
Dia. 7



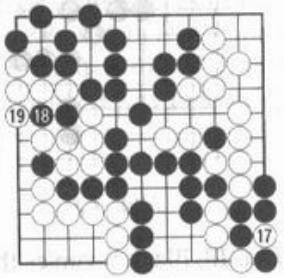
Dia. 8

This is four points better than the answer given in the solution in the last chapter, so starting a ko with 6 in *Dia. 3* doesn't gain anything for Black.

You may wonder if Black has made the best moves. For example, what about 10 in *Dia. 4*? When White captured with 19 in *Dia. 6*, he gained five points. Wouldn't it be better to capture with 10 in *Dia. 8*?



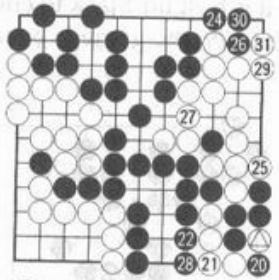
Dia. 9



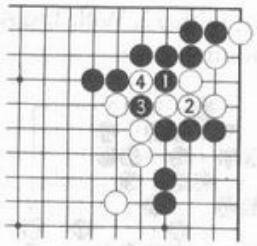
Dia. 10

No, it wouldn't. As before, the sequence would continue with Black 14 in *Dia. 9*, but White now has a ko threat at 15 which he didn't have before. After White takes the ko with 17 in *Dia. 10*, Black uses his last big ko threat at 18, but White still has one more ko threat at 21 in *Dia. 11* (next page). After White takes the ko with 23, Black's biggest ko threat is 24, but this is worth at most five points if Black plays 26. Capturing with 25, on the other hand, is worth 20 points. After White 31, if you fill in the neutral points and count the score, you will see that White wins by 13 points.

From these two variations, you can see that paying attention to the number of ko threats your moves create can be an important factor in whether you win or lose a ko.



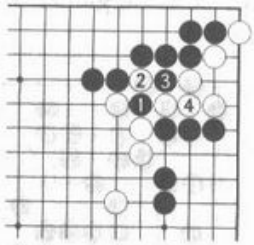
Dia. 11 23: ko at △



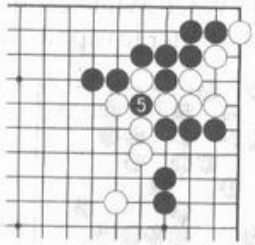
Dia. 12

Be the First to Take the Ko!

Sometimes you can gain an extra ko threat by paying attention to the way you start the ko. For example, in *Dia. 12* Black can start a ko, threatening to cut off some white stones, by playing 1 and 3. However, after Black 3, White can make then first capture with 4. This means that Black will need one more ko threat to win the ko.



Dia. 13



Dia. 14

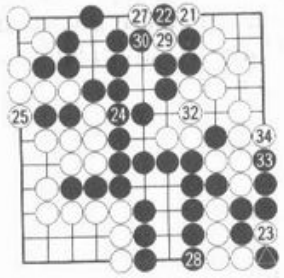
In *Dia. 13*, Black reverses the order of moves and throws in a stone at 1 first. Then, after White captures at 2, Black can play 3, forcing White to connect at 4. As a result, he can then make the first ko capture with 5 in *Dia. 14*.

You may think that it is trivial to worry about only one ko threat, but one extra threat may make the difference between winning and losing the ko fight and perhaps the game.

When to End a Ko Fight

It is not always a good idea to play out a ko right to the bitter end, since certain kinds of ko threats can result in the loss of points. Let's go back to the example game above.

You might wonder if it is better for Black to continue fighting the ko by defending at 23 with 22 in *Dia. 7*. After all, Black does have another ko threat at 'a'. If you play out the sequence in *Dia. 15*, you will see that Black loses by ten points instead of eight points as in *Dia. 7*. The reason is that Black loses the stone at 22 and White has played on the point 27 in this diagram, whereas in *Dia. 7*, White had to make a move at 29 to gain this point. This is where the extra two points come from. As this example shows, it is important to know when to end a ko and not make ko threats that result in the loss of points.



Dia. 15
26: ko at ▲ 31: at 22

There are many other variations that we have not analyzed, but it would be good practice for you to investigate them on your own. For example, what would be the result if White ignored Black's ko threat of 12 in *Dia. 4* and ended the ko by capturing the four black stones on the right with 13? Thoroughly working out problems such as these on your own is a good way to develop your understanding of ko fights.

BIBLIOGRAPHY

The Get Strong at Go Series

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